THE USE OF DELPHI TECHNIQUE IN VALIDATION OF NURSING DIAGNOSIS

ABSTRACT

Objective: to identify and characterize the studies that used the Delphi technique in validation nursing diagnoses. Method: this is an Integrative Review of Literature, held at the Banco de Teses da CAPES in September 2011. After exhaustive reading, data were allocated in a summary table and proceeded to analyze and discuss the data with the literature. Results: four studies were included in the sample. Of these, three studies used two rounds of the Delphi technique and another study used three rounds. In relation to the consensus adopted by researchers, 70% was considered sufficient in three surveys. Conclusions: these studies have allowed characterize the use of the Delphi technique at nursing diagnoses validation, revealing a gap in the Brazilian literature on this subject, and incipient practice of this technique in the validation process. New investigations on this background are notably relevant for the construction of evidence indicating the need for their use. Descriptors: Delphi Technique; Nursing; Nursing Diagnosis; Validation Studies; Classification.

RESULTS

Método: revisão integrativa de literatura, para a qual foi elaborada a questão de pesquisa << Como vem sendo utilizada a Técnica Delphi na validação de Diagnósticos de Enfermagem? >> A busca das informações foi realizada no Banco de Teses da CAPES, em setembro de 2011. Após a leitura, os dados foram alocados em uma figura e se procedeu a análise e discussão. Resultados: quatro estudos componham a amostra. Destes, três utilizaram duas rodadas na aplicação da técnica Delphi e outro utilizou três. Conclusão: os estudos permitiram caracterizar a utilização da Técnica Delphi na validação de diagnósticos de enfermagem, revelando lacuna na produção brasileira sobre este tema, sendo incipiente a prática desta técnica no processo de validação. Novas investigações são notadamente relevantes para a construção de evidência que indiquem a necessidade de seu emprego. Descritores: Técnica Delphi; Enfermagem; Diagnóstico de Enfermagem; Estudos De Validação; Classificação.

CONCLUSIONS

Método: se trata de uma revisão integradora da literatura, realizada em o Banco de Teses da CAPES. Depois de a leitura exaustiva, os dados foram alocados em um quadro e se procediu a analisar e discutir os dados com a literatura pertinente. Resultados: quatro estudos componham a pesquisa. Destes, três estudos utilizaram duas rodadas da Técnica Delphi e outro estudo utilizou três rodadas. Conclusões: estes estudos permitiriam caracterizar a utilização da Técnica Delphi na validação de diagnósticos de enfermagem, revelando vacio na literatura brasileira sobre este tema, e a prática incipiente de esta técnica no processo de validação. Novas investigações sobre este escenario são especialmente relevantes para a construção de evidencia que indica a necessidade de que seu utilização.

Descritores: Técnica Delphi; Enfermagem; Diagnóstico de Enfermagem; Estudos De Validação; Classificação.

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INTRODUCTION

Interest in Classification in Nursing is a national and international reality. Brazilian nursing has demonstrated commitment in the pursuit of knowledge about the phenomena of their practice, particularly in nursing diagnoses, focusing on the identification and validation of its elements.¹

The validation of a nursing diagnosis refers to the degree that represents the true condition of the client (individual, family, community), which requires nursing intervention.² This process aims to increase the reliability of diagnoses and refine your set of clinical indicators, to make it legitimate for a clinical situation and for all nursing professionals.³

Fehring, a researcher of these thematic presents models of diagnostic content validation, clinical validation, etiological correlation and validation of diagnostic definition. The diagnostic content validation is performed by experts. These must have knowledge of the nature of nursing diagnosis in order to assess the representativeness or relevance of the content of items submitted. There is a proposal for the merger of the Delphi technique in this process.⁴⁶

The Delphi Technique is a systematic method of judgment of information, useful for achieving a consensus of experts, also called experts, experts or judges in a particular subject. This is accomplished through validations articulated in rounds on a matter in which there is little evidence or agreement. The operation involves three basic principles: the anonymity of respondents, the feedback of responses of the group for review in subsequent turns and improvement of the instrument to reach consensus among the reviewers. The turns of the questionnaire is conducted until the divergence of opinions among experts has been reduced to a satisfactory level.⁷⁹

In Brazilian nursing, the first study using the Delphi Technique was conducted in 1995, with the aim of identifying nursing diagnoses and conducts applicable to spinal cord injured treated in the program of reeducation.¹⁰ A literature review identified 12 articles published between 1996 and 2008 that used the Delphi Technique, and pointed out positive aspects to be improved.¹¹

An analysis of scientific production shows itself relevant to evidence how the researchers have been conducting the Delphi Technique in the process of validation of nursing diagnoses. Based on these considerations, this study aimed to identify studies that used the Delphi technique in validation of Nursing Diagnoses.

METHOD

The present study is characterized as an Integrative Review of Literature, which aims to synthesize and analyze the knowledge produced, requires scientific and methodological rigor, performed with clarity and criticality.¹² There were the following steps: problem formulation, data collection, evaluation of data collected, analysis and data interpretation, and presentation of results.¹³

The research question was: How is being used the Delphi technique in validating nursing diagnoses?

As inclusion criteria are considered the studies conducted in the period 2000 to 2010, in English, Spanish and Portuguese.

We conducted the search in the databases LILACS, Web of Science and Cinahal and CAPES (Coordination of Improvement of Higher Education Personnel). However, the data collection was performed only at the Bank of CAPES thesis, since the other bases were not found articles that addressed the objective of this study.

Data collection was performed in September 2011 directly in the session resumes with the following terms: "Delphi Technique", "validation" and the descriptor "Nursing." We opted for this period, since the studies on this subject gained much greater emphasis in the national and international levels, in addition to growth in the number of postgraduate courses and the consequent increase of scientific production.

We found 20 studies in the Capes Theses Database. After careful reading of titles and abstracts, we identified that only four suited to its purpose. Thus, four studies comprised the final sample for analysis of the review. At this stage, we considered the most relevant data in order to minimize selection biases. Then we proceeded to an exhaustive reading in order to identify the explicit and implicit on using the Delphi Technique.

We prepared a data collection instrument that contained the following data: title, author, graduate program, year goal, rounds of the Delphi Technique. Based on data collected were organized the information in the form of a summary table to perform the analysis and discussion of the data in the literature.

It is noteworthy that the commitment to the ethical aspects of the service consisted of the authors of the studies analyzed, keeping the authenticity of his ideas.
The following are the details of the selected studies dealing with the validation of nursing diagnoses using the Delphi Technique in its methodology, produced by Brazilian nursing between 2000 and 2010.

Of the four studies identified, two were completed in 2008 linked to the following Graduate Programs: Master’s Program in Nursing UnG / Guarulhos University and the Graduate Program in Nursing / Master / Federal University of Ceará. Those completed in 2009 are linked to the Graduate Programs in Nursing, Masters level, the School of Nursing, Federal University of Minas Gerais and the Academic Master’s Degree in Clinical Health Care, State University of Ceará, as displayed in Figure 1.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Program</th>
<th>Year</th>
<th>Objective</th>
<th>Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Diagnosis in care of patients with acute kidney injury.</td>
<td>Souza GR.</td>
<td>Masters Program in Nursing, UnG / Guarulhos.</td>
<td>2008</td>
<td>Establish and evaluate the nursing diagnoses according to NANDA Taxonomy II, for assistance to patients with acute kidney injury.</td>
<td>Three turns.</td>
</tr>
<tr>
<td>Risk for decreased cardiac output: characterization of proposed nursing diagnosis.</td>
<td>Melo RP.</td>
<td>Post-graduation Program in Nursing / Mastering / Federal University of Ceará</td>
<td>2008</td>
<td>Build and validate the nursing diagnosis risk for decreased cardiac output.</td>
<td>Two turns.</td>
</tr>
<tr>
<td>Definition and validation of the terms attributed to nursing phenomena in intensive care.</td>
<td>Bedran T.</td>
<td>Post-graduation Program in Nursing, Masters level from the School of Nursing from the Federal University of Minas Gerais.</td>
<td>2009</td>
<td>Validate the elaborated definitions for terms used by nurses, not listed in the ICNP® - Version 1.0 and identified in the records of patients admitted to an intensive care unit in Belo Horizonte.</td>
<td>Two turns.</td>
</tr>
</tbody>
</table>

The four studies are related to the specialty renal, cardiology, intensive care and pediatrics, directly related to nursing practice in critically ill patients and clinicians. Regarding the classification system used, the NANDA International was used in three studies and the International Classification for Nursing Practice (ICNP) in a study. For the establishment of experts, two studies following criteria Fehring4, however, adaptations to establish them. A study has established the criteria to be a specialist in Nephrology, considering the area of nursing diagnoses to be judged. The other study found that the experts would have to have minimum experience of five years in nursing neurologological and / or child health.

Still on the sample of experts, there have been 12, 25, 21 and 10 nurses who participated in the research.

About the loss of participants, a study asked 60 nurses considered experts, and 31 were accepted and 25 returned the instrument. In the research THAT has validated the terms based on CIPE, 175 nurses who met the established inclusion criteria, agreed to participate. In the first round was attended by 57 nurses, and in the second round, counted on the participation of 21 nurses. In the other study, the authors found a population of 30 professionals who were invited in person or via internet. Among those invited, 15 responded, and four refused to participate in the survey that they thought had no experience of the subject involved. The other guests had not responded to or returned by electronic mail address of the downgrade. The initial sample consisted of 11 experts, and at the end of the study, there was a withdrawal without prior contact and the sample consisted of 10 nurses. The study, which investigated the nursing diagnoses in the field of nephrology had a population of 40 nurses, and 12 were selected who had or were completing a specialization in nephrology. Only in the latter study there was no withdrawal of the experts during the rounds of the Delphi Technique.

In relation to the consensus adopted by researchers, 70% was considered sufficient in three surveys. Another study established 80% of minimal consensus. In the case of rounds applied in studies reviewed here, three studies used two turns. O another study used three rounds. The time between the first and last round, was not reported in the studies.

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There were operational definitions for clinical indicators in three studies. No other study, nursing diagnoses were submitted to validation in accordance with the diagnostic accuracy related to the child with hydrocephaly in the use of ventricular derivations have been identified previously collected by the authors, and they been validated in the first round of the study. It is worth noting that in this study, the goal was to develop an instrument for systematization of nursing care to children with hydrocephalus in the use of ventricular derivations, however, validation of nursing diagnoses related to the child was inherent in the process of validating the instrument.

The aspect pointed out as weakness by the researchers was the loss of specialists for the next rounds. The delay in the delivery of the questionnaires was a difficulty. Another difficulty concerns the accession of specialist nurses to accept the study. In all, some nurses who have accessed the questionnaire not answered completely, leaving a mark the degree of agreement on some definitions elaborated. This event marked delays as there was no move to step two without a number of participants expected.

**DISCUSSION**

Based on the results, the authors make specific recommendations for the clinical applicability of nursing diagnoses, in order to validate its elements in practice. They also report the importance of using the Delphi technique, as well as the complexity of its use in terms of methodology, highlighting the issue of validation of existing models, and the challenges for the development of future research.

The CIPE and NANDA-I went to the classifications used in the research here reviewed. Rating systems have been mobilizing nurses around the world, to meet the challenge of universalizing its language. The validation methodologies, while basic in terms of methodology, highlighting the issue of validation of existing models, and the challenges for the development of future research.

Concerning the criteria for selection of experts, most studies have established criteria according to the specificity of your search. Fehring recommended that the sample of this type of study is constituted by about 50 nurses. However, it is known that there are difficulties in finding professionals who meet the criteria proposed by the author, which recognizes the fact and points out the requirements of the American Nurses Association Social Policy Statement. These include a minimum of specialization at Masters Level, research in the diagnosis and articles of interest regarding diagnosis. For each of these criteria, it provides a score and must have at least a score of five. In this context, the selection of experts can become an arduous task in Brazilian nursing.

Researchers warn that the criteria for selection of experts should be directed to the study objectives, subject to the requirements needed to validate the nursing phenomena. Furthermore, research experience and knowledge about the classification is critical to ensure the reliability of research results and should be explicit in describing the study in order to clarify and detail the procedure of choice to promote replication other researchers.

As for determining the minimum consensus for validation, it was adopted in three surveys, the percentage ratio of 70%. It is known that there is no guideline to establish the appropriate level of consensus to be achieved. However, in most studies conducted with this technique, there is a minimum of 70% concordance in the final step of the Delphi technique. One study analyzed used a higher level (80%), which can be raised higher accuracy.

On the use of definitions for terms, it was observed that almost all research brings operational definitions to assist the experts in choosing the items to be evaluated. The construction of definitions favors those who analyzes because they give practical meaning to the conceptual definitions, specifying the activities and procedures for assessment in terms of study. It is considered that they are essential components of the research of nursing diagnosis, because they bridge the gap between observation and scientific research, and bring the theory of practice.

Regarding the number of rounds, the research mostly used two rounds, one of which validated the nursing diagnoses in the first turn. The Delphi technique the number of rounds is established as the consensus expected to arise on a particular subject. The duration and cost of such research are directly related to the quantity and complexity of the questionnaire items.

The weaknesses pointed out by the authors of the studies analyzed here were the difficulty of identifying experts, as well as the delay and eventual cancellation of return of questionnaires from them. Researchers say that the response rate for questionnaires is almost always low, and many questionnaires are not computed and/or returned because...
they had problems related to the understanding, being very long and still have the visual presentation and complicated layout.27-29

The construction of a questionnaire is derived from a process improvement. Each question must be examined individually questioned as to the content, form, composition and sequence. Authors recommend testing prior consultation or technical validation and verification of the degree of difficulty and response time.27-29

However, the vantage points outweigh the harmful because the use of the Delphi Technique was useful for judging the content of nursing diagnoses. The main advantages are getting even with expert knowledge geographically distant, the individual and collective reflection on the topics addressed, as well as integration and synergy of ideas and views among experts, the knowledge aggregation process, not only for answers but also because the process itself gives rise, through the rounds, reformulation, and refinement of questions. There are also economic advantages to waive transportation, weather, mail, accommodation, food, and pay the time of the participants. Without the interaction between experts, avoids influences / biases between the responses, which can also limit because the lack of interaction precludes clarification or discussion of the discrepancies. However, it can be partially circumvented by the use of open-ended questions or open spaces that allow complementary clarification.13-16, 27-9 O that was the case in a study of this sample showed that the experts’ opinions concerning items validated.14

It is essential that the researcher conducts the Delphi Technique with rigor and responsibility for the data collected, as well as note the limitations of the subject under investigation, subject to the requirements needed to validate a nursing diagnosis for certain populations. This type of research is important for the identification of clinical evidence in patients more features highlighted by the expertise of the expert search. The Delphi technique is a strategy for collecting data in the validation of diagnostic content; however, with regard to the level of evidence, this part of the validation process is presented with the low level of evidence. However, this does not interfere with the quality of search results, since the trial of nursing diagnosis is performed by a panel of experts.52 Thus, in continuity, it is important application of these data in clinical practice. This essential process for the consolidation of the concepts that

structure the identification and formulation of nursing diagnoses.

**FINAL REMARKS**

The four studies examined possible to characterize the use of the Delphi technique to validate nursing diagnoses, revealing a gap in the Brazilian literature on this subject, and the nascent practice of this technique in the validation process. The Delphi Technique has obtained generally positive assessment in the analyzed studies, but are worrying that it presents some difficulties, such as returning the questionnaires, which also is reported in other studies that have used it.

The taxonomy of NANDA-I was more used in the studies. Major investments are needed in the application of the Delphi validation of elements of this taxonomy, to know the impact of this methodology in the phenomena to be investigated.

In general, the studies found a positive led methodology, respecting the basic requirements. New investigations about this background are especially relevant for the construction of evidence indicating the need of their jobs.

A nursing diagnosis is evaluated through the expertise of nurses favors the incorporation of evidence for nursing practice from the analysis of data collected by them, besides the construction of new research questions.

As a limitation of this study, it is pointed the small number of found studies, besides the difficulty in choosing the words that identify such studies in databases and virtual libraries.

Even though it was found a small scientific production, it proved relevant and motivating researchers who certainly seek answers to their concerns regarding the process of validating nursing diagnoses. It is evident the need to further extend the research on this topic. This need to set in a challenge for Brazilian nursing research in nursing classifications, in order to enable the construction of scientific evidences.

**REFERÊNCIAS**


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