



Conceptual analysis methods in nursing: a theoretical reflection

Métodos de análise conceitual na enfermagem: uma reflexão teórica

Métodos de análisis conceptual en enfermería: una reflexión teórica

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ABSTRACT

Objective: to reflect on different conceptual analysis methods used in nursing. **Method:** The methods were identified with the criteria: level of detail, distinctions with other proposals and use in nursing studies. It was elaborated a chart with eight methods of concept analysis, in synthesizing them, analyzing them and highlighting their central aspects. **Results:** Two 'lines' of analysis methodologies were identified. The first one is structured, with objective and not very flexible steps. The second, in turn, makes the research path more flexible, which is built/modified in the process. **Conclusion and implication for practice:** Conceptual analysis is useful to assess how a concept has been used in nursing, what changes are processed with its use over time, to which situations it applies. The choice for a method depends on the level of development of the concept, reinforcing the proposition that there is a gradation, that is, there are concepts already being widely used by nursing and others that are appearing in the discipline's speeches and texts.

Keywords: Concept formation. Nursing. Nursing research. Nursing Theory.

RESUMO

Objetivo: refletir sobre diferentes métodos de análise conceitual utilizados na enfermagem. **Método:** Identificaram-se os métodos com os critérios: nível de detalhamento, distinções com outras propostas e uso em estudos da enfermagem. Elaborou-se um quadro com oito métodos de análise de conceito, sintetizando-os, analisando-os e destacando seus aspectos centrais. **Resultados:** Identificaram-se duas 'linhas' de metodologias de análise. A primeira delas é estruturada, com passos objetivos e pouco flexíveis. A segunda, por sua vez, flexibiliza o percurso de pesquisa, que é construído/modificado no processo. **Conclusão e implicação para a prática:** A análise conceitual mostra-se útil para avaliar como um conceito vem sendo usado na enfermagem, quais modificações se processam com seu uso, ao longo do tempo, a que situações se aplica. A escolha por um método depende do nível de desenvolvimento do conceito, reforçando a proposição de que há uma gradação, ou seja, existem conceitos que já são amplamente utilizados pela enfermagem e outros que estão surgindo nas falas e textos da disciplina.

Palavras-chave: Formação de conceito. Enfermagem. Pesquisa em enfermagem. Teoria de Enfermagem.

RESUMEN

Objetivo: reflexionar sobre los diferentes métodos de análisis conceptual utilizados en enfermería. **Método:** Se han identificado los métodos con los criterios: nivel de detalle, distinciones con otras propuestas y uso en estudios de enfermería. Se elaboró una tabla con ocho métodos de análisis de conceptos, sintetizándolos, analizándolos y destacando sus aspectos centrales. **Resultados:** Se han identificado dos "líneas" de metodologías de análisis. La primera está estructurada, con pasos objetivos y poco flexibles. La segunda, a su vez, flexibiliza el recorrido de la investigación, que es construido / modificado en el proceso. **Conclusión e implicación para la práctica:** El análisis conceptual es útil para evaluar cómo se ha utilizado un concepto en enfermería, qué cambios se producen con su uso a lo largo del tiempo, a qué situaciones se aplica. La elección de un método depende del nivel de desarrollo del concepto, reforzando la proposición de que existe una gradación, es decir, que hay conceptos que ya son ampliamente utilizados por la enfermería y otros que están apareciendo en las conversaciones y textos de la disciplina.

Palabras clave: formación de conceptos. Enfermería. Investigación en enfermería. Teoría de enfermería.

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INTRODUCTION

Nursing is a young science and has been expanding its scientific knowledge base to support the research, teaching and practice of the profession. In this sense, the development of theories focuses on important phenomena, proposing to base nursing care in different scenarios and situations. Initially, the conceptual basis of nursing theory and research used concepts from other disciplines, which made it necessary to verify their adequacy, because many definitions may have been altered during their application process.¹ Concepts underlie theoretical thinking in Nursing² and it is necessary that they can be clearly understood so that they broaden the knowledge of the discipline, be translated into research and professional practice.³

The concepts delimit and guide the discipline, forming units that link theory, research and practice in nursing.⁴ In nursing, behavioral concepts are of greater interest to researchers and can be:⁵ daily, used in common language and described in dictionaries; and scientific, developed by researchers whose definitions are restricted. However, the dynamism of language absorbs a scientific concept in everyday life and vice versa.^{5,6} Hence the importance of analyzing concepts that arise in literature to establish the pragmatic utility of these.⁵

Thus, concept or conceptual analysis refers to the process used to elucidate meanings, so that they can be understood in a similar way by those who use the concept in the same context, space-time cutting and situation. It is part of the concept formation process and involves the formulation and clarification of a “mental construct, systematizing relevant information in such a way as to allow its evaluation and improvement” to advance theory and guide practice.^{4:180}

The search for a method to proceed to the analysis of concepts in a study in development by the authors revealed the existence of many of them, proposed by nurses or for use in nursing. The attentive reading indicated that, although all have similar proposals, with distinctions that may seem initially subtle, are being unveiled during the process. The deepening of understanding has shown that such differences may be relevant in conducting conceptual analysis. Considering the difficulty found in this path, different methods of conceptual analysis used in nursing were studied in detail, highlighting the aspects that characterize each one, in order to facilitate the choice for each one. From this intention, the present article was born, with the objective of reflecting about different methods of conceptual analysis used in nursing.

Conceptual Analysis and the Paths Traveled in this Reflection

There are different definitions for the word ‘concept’: a) word or phrase that summarizes an idea, observation or experience (phenomenon), providing a mental image that facilitates the understanding of the phenomenon and communication about it;⁷ b) abstraction expressed in a discursive way or not that, through socialization and public interaction, is associated with attributes that define it;⁸ c) mental construction that assigns meaning to

environmental stimuli in an attempt to order them;^{9,10} d) label used to describe a phenomenon or group of phenomena;³ e) as (*the basic building blocks*) of a theory⁹⁻¹³ and f) threads that compose a tapestry.¹⁴ The diversity of definitions demonstrates the polysemy of the term and points to the variety of methods used for analysis. All definitions are relevant to the field of nursing, depending on the method used to develop the conceptual analysis.

Reflections on concept analysis have already been published in Brazil.¹⁵⁻¹⁸ However, concepts change, as do references and methods of conceptual analysis, which, combined with the existing gaps in the consulted literature, makes the choice of a method difficult. Regarding conceptual analysis, there are those who defend it as essential in the advancement of nursing knowledge or as an important initial point of academic work.¹⁹ The critics present different arguments: they believe that this practice was adequate in the 1980s, in the bulge of the scientific movement for the production of nursing theories, but it is no longer so today;²⁰ defend the idea that theories are created from theoretical and / or practical questions to be later tested and validated through research; affirm that there is a lack of linkage of methods with the philosophy of science.^{20,21} This last argument is based on the idea that theories result from creative efforts to propose solutions to problems of practical and/or scientific origin and not from the analysis of concepts.²¹ There are still those who consider that the analysis of concepts needs to maintain a clear link with the resolution of problems in the discipline.²²

In this scenario, this reflection was undertaken when considering such criticism and the relevance of the concepts in the advancement of nursing knowledge. For this, books and articles dealing with conceptual analysis and methodologies used to develop it were read, which made it possible to identify methods often used in nursing.^{9,10,23,24} In reading the originals of these authors and criticisms of conceptual analysis, other authors were identified.^{3,5,6,11,12,25-29}

Thus, different levels of detail were observed in the proposed methods, distinctions between them and different intensities of use in the studies. These aspects, allied to the employment in nursing and the clarity of the methodology, guided the decision about those to be included in this reflection. Eight methods of international authors were selected (England, Finland and United States - USA), among which five operate in the USA. The methods presented were published from 1963 with updates until 2019, with a greater concentration of productions between 1980 and 2000. Two studies were not carried out in nursing: one was proposed in the 1960's in England²⁹ and the other was based on nursing publications on conceptual analysis.²⁶⁻²⁸

To present the result, a comparative table with eight methods of concept analysis was elaborated, synthesizing them, analyzing them and highlighting their central aspects. However, it is important to point out that, besides these, there are other methods that were not included because: they have similarities among themselves; they do not argue consistently about their philosophical bases and or because they are not sufficiently presented.

CONCEPTUAL ANALYSIS METHODS

The analyzed methods are summarized in Chart 1

REFLECTIONS

It was possible to observe two 'lines' of concept analysis methodologies among those analyzed. One of them, more structured, has more objective and less flexible steps, although they overlap and is represented by: John Wilson;²⁹ Lorraine Walker and Kay Avant;^{9,10} Rodgers²² and Anita Nuopponen.²⁶⁻²⁸ It is applicable when one wishes to adopt a linear path, when one begins in conceptual analysis or, still, when the researcher develops studies and structured research. The second 'line', more flexible, considers that the path is constructed/modified in the research process and includes: Morse (2000);^{1,5} Penrod and Hupcey (2005);^{6,14} Donna Schwartz-Barcott and Hesook S. Kim (1986, 2000);²⁸ Meleis (1997)³.

Created in the field of education, the method proposed by Wilson²⁹ defends that words serve human purposes, and, for this, the meaning must be appropriate to the situation and context. It is the main reference for methods in nursing and inspired proposals of conceptual analysis, like Walker and Avant and Schwartz-Barcott and Kim. There are those who claim that Rodgers' method is Wilsonian^{1,13,30} and there are those who claim that it is not.⁴ The method proposed by him has received several criticisms that extend to those who derived from it and, in this sense, it is said that Wilson's textbook²⁹ "was taken more seriously by the nursing academics than it deserved, even to an excessively misleading point of simplification".^{4:183} However, Wilson considers that the stages 'social context, practical results or underlying anxiety' are not necessary in all analyses.

About Walker and Avant, for example, there is criticism related to the fact that the method simplifies the complexity of conceptual development, often producing trivial and insignificant

CHART 1: Summary of the conceptual analysis methods selected for the study

Author(s)	Description
John Wilson 1963 England	Proposal to help high school students understand the meaning of words and improve communication, making thinking more structured and objective. Theoretical inspiration not described, but it is inferred influence of the positivist paradigm. Analysis with 11 steps: 1. isolate questions about concepts, differentiating them from facts and values. 2. search for the right answers. 3. model cases. 4. contrary, counterexample. 5. related cases. 6. borderline cases. 7. invented cases. 8. social context. 9. underlying anxiety. 10. practical results. 11. consequences in language.
Lorraine O. Walker Kay C. Avant 1983, 2019 United States Wilson's adaptation for Nursing.	Considered as a strategy to examine central attributes of a concept, allowing the clear identification of the phenomenon to which it refers. Analysis with eight steps: 1. Select a concept. 2. Define the objectives of the analysis. 3. identify possible uses of the concept. 4. determine identified defining attributes. 5. build at least one case - model. 6. build additional cases, exemplifying what the concept is NOT (borderline; related; contrary; invented; illegitimate). 7. identify antecedents and consequents. Define empirical references of defining attributes.
Beth L. Rodgers 1987, 2000 United States Evolutionary concept analysis method	It proposes to elucidate concepts, evaluating their robustness, limitations and introducing variations that broaden their contribution to achieving intellectual objectives. In the analysis, significance, use and application, which progress in a continuous cycle through time and according to the context, are essential, which characterizes the evolutionary conception. It was based on the thought of H.H. Price, Richard Rorty, Stephen Toulmin and the late writings of Ludwig Wittgenstein. Analysis in seven steps: 1. Identify and name the concept of interest. 2. Identify substitute terms and relevant uses of the concept. 3. identify and select a sample for data collection, in nursing or including other disciplines. Identify the attributes of the concept. Identify references, antecedents and consequents. Identify related concepts. 7. identify a model case (real example).
Donna Schwartz-Barcott Hesook S. Kim 1986, 2000 United States Hybrid Model	Aims to refine concepts for theory development. Hybrid because it links theoretical analysis and empirical observation. It indicates inspiration in three areas of knowledge: philosophy of science, sociology of theory construction and participant observation or field research. Theoretical Phase: concept selection, literature search, meaning search and concept measurement instruments, to choose definition to be used in the field phase. Field Work: field selection, field entry negotiation, case selection, data collection and analysis. 3. Analytical Phase: analyzing and weighing the data, writing the findings.

Source: Author's database (2019)

CHART 1: Continued...

Author(s)	Description
<p>Anita Nuopponen 1994, 2016 Finland Systematic concept analysis He used studies developed in nursing to propose his method</p>	<p>It clarifies and describes concepts belonging to a whole, their characteristics and the relationships they maintain within concept systems. Part of the discussion of methods of concept analysis used in business studies and nursing science. Analysis in six steps: 1) Objective, delimitation of the domain and the number of concepts to be treated. 2) Acquisition of domain knowledge and creation of a general idea of the field. 3) Compilation of the material. 4) Elaboration of preliminary conceptual system and/or framework for analysis. 5) Systematic analysis of the material, involving six stages. 6) Additional analysis and conclusions according to the objective of the concept analysis.</p>
<p>Janice M. Morse 2000 United States Pragmatic Utility of concepts</p>	<p>Research process that has in literature the data source to explore the pragmatic utility of the concept. The results promote the advancement of knowledge beyond what is known. Unclear theoretical inspirations. It was based on previous publications of his authorship or co-authorship. It highlights the 'rules of relation' proposed by Bolton (1977) to identify the meaning and maturity of the concept. It adopts guiding principles for analysis: 1) to establish clear purpose of the investigation, with preliminary question to guide the search for literature. Delimit the concept to be explored; identify all terms used, composing a list of search terms and identifying related and opposing concepts, without including alternative meanings. 2) ensure validity, searching the literature for the relevant databases and developing strategies to access the data registration system. 3) identify significant analytical issues, becoming familiar with the literature by reading everything found to refine the search question, which will determine the organization of the data for comparison and subsidize the identification of analytical issues. 4) Synthesize results, preparing the 'scenario' to visualize the whole and compile the results.</p>
<p>Afaf I. Meleis 1997 United States Integrated Approach to Concept Development</p>	<p>It analyzes well defined concepts in nursing literature to raise the level of understanding, aiming at the development of theories. The concept analysis guides what we see and orders situations and events. It recognizes the pioneering concept analysis of Wilson, Walker and Avant and Rodgers and Knafl. Analysis with six stages: 1) Taking (taking in): dimensioning a situation that calls attention and giving attention to it. 2) Describing the phenomenon. 3) Labeling. 4) Developing the concept. 5) Declaration development. 6) Explanatory assumptions.</p>
<p>Janice Penrod Judith E. Hupcey 2005 United States Principle-based method</p>	<p>The focus is to integrate what is known about the concept, acting to broaden the understanding of a phenomenon of interest. It identifies gaps and inconsistencies in the understanding of a concept. It is guided by four philosophical principles proposed by Morse (1995) and Hupcey et al. (1996): epistemological; pragmatic; linguistic; logical. It proposes analysis in three stages, emphasizing the need to use the philosophical principles in each methodological stage: 1) Selection of literature. 2) Sampling guided by the concept. 3) Intra and interdisciplinary analysis. The result will be a theoretical definition that integrates the scientific understanding of the phenomenon and recreates the theoretical tapestry of the concept. Gaps and scientific inconsistencies can be identified, increasing the power of analysis for the advancement of nursing science.</p>

Source: Author's database (2019)

results.³⁰ Other criticism points to the lack of philosophical, ontological delineation, contextualization in the analysis, besides being considered reductionist and rigid. For Walker and Avant, the method is unique for student learning and it is necessary that the analysis amplifies the application of the concept in practice and research so that it can be published.¹⁰ With this, they extend the responsibility for the amplification of the Nursing knowledge base to scientific magazines and newspapers. In the method proposed by them, the concept analysis has value as it

contributes to research and development of theories. Moreover, the analysis must have repercussions in the nursing practice. However, despite the criticism that it has received, it is one of the most used methods by nursing.

Beth Rodgers^{8,24} proposed the evolutionary method and rejects similarities with Wilson and Walker and Avant due to the philosophical and epistemological explanation of his proposal, although he recognizes possible similarities between the processes. Rodgers considers inappropriate the identification or construction

of other cases (bordering, contrary, invented and illegitimate), just as other proposals do.^{9,10,23} The model case that he recommends building at the end of the analysis must be true. The possibility of using interviews to capture data is also a difference and favors the contextualization of the concept. It highlights the changeable characteristic of concepts in time and with context; therefore they must be interpreted in a given context, which seems to limit them to it, which can be considered a weakness of the method,⁴ although it is consistent with the principles of qualitative research that it uses, whose generalization of results is not central.

In developing a concept, Rodgers considers significance, use and application,³⁰ which progress in a continuous cycle through time. Significance refers to the ability to assist in problem solving and adequately characterize phenomena. A frequently used concept is considered significant and its use refers to the attributes that help organize human existence. Significance impacts the frequency and extent of use, the way the concept is applied, the appropriate situations for its application, and use in language or other form of presentation.²⁴

The work of Schwartz-Barcott and Kim²³ is considered Wilson's derivation that advances by proposing the articulation between the theoretical, field and analytical phases, which differentiates it from the proposal of Walker and Avant and Rodgers. In the model of overlapping phases, the concept must be linked to a scenario of care and always emerge from clinical practice. The collection of data in the field is essential to elucidate or develop a concept, which is done following principles of qualitative research, with the creativity and innovation of the researcher, assuming centrality in the analysis. However, the conduction of concept analysis is not clear. It follows that the concept chosen from the practice and previously defined based on the literature will be modified, elucidated and refined by the analysis of data from the field phase. However, the link with Wilson arises when the application of the typology of cases proposed by him is indicated for situations where the essential characteristics and indicators of the concept are not clear. There is no clarification on how such characteristics and indicators are found.

In the proposed systematic analysis of Nuopponen,^{26,28} the basic idea is that "no concept is an island" and that every analysis involves other concepts, whose interrelationships must be clarified and presented in a graphic diagram. The analysis is an activity in which concepts belonging to a whole, their characteristics and the relationships they maintain within the systems of concepts are clarified and described. It is applicable for many purposes, combining elements of terminology analysis with elements of other more research-oriented methods of concept analysis. However, only core concept analysis is considered, and guidance for terminology work is one of the purposes for which systematic analysis can be used. It indicates diagrams as tools that bring together types of concepts and conceptual relationships through typologies to form mixed conceptual systems. The basis of this set of tools is the construction of one or more map(s) or conceptual system(s) from the compilation of knowledge and the structuring of the field. Such tools include: Satellite model (graphic knowledge

of mental maps and presentation of concepts) and conceptual relationship model (basic and structural models, of origination, development, activity, transmission, causality and dependence). No studies were found developed in nursing using systematic analysis.

In Morse's⁵ 'Pragmatic Utility of Concepts' method, the attributes, characteristics and limits of a concept are identified in the literature, which should be sought in a broad time frame, including what has already been published about the concept and with complete reading of all the material. A complete reading of all literature found is central to assessing the maturity of a concept. A concept is considered mature if it has adequate literature available in number and quality. The result takes knowledge beyond what is currently known about the concept and "reveals new *insights*, poses significant questions and provides guidance on what level of investigation and what methods should be used in the next phase".^{5:334} Second Morse,⁵ the guiding principles it proposes aim to overcome the simplification of the procedure common to other methods, to which many criticisms are made and to value the intellectual work involved in the analysis. The principles, broad and generic, require skills in qualitative research to progressively define the research question, selection criteria and analytical issues that will guide the analysis. What is needed for the results to support the researcher in redefining the concept. It is a complex method that demands a long time to be developed and that seems more suitable for experienced researchers who dedicate themselves to conceptual studies.

For Meleis,³ concept analysis guides what we see and helps to order situations and events. In the Integrated Approach to Concept Development that it proposes, the strategies allow the researcher to develop the analysis according to the situation of the concept of interest in nursing. The process of analysis, which aims at the development of concepts, is based on the limitations of other methods in capturing the context, which brings it closer to Rodgers and Schwartz-Barcott and Kim.^{9,23,24} It emphasizes that other methods also fail to capture the biases existing in the social structure, such as sexism, politics and racism. These cases are not considered from the perspective of clinical practice or experience, but from the perspective of recipes that reduce the process to the condition of ingredients, steps and phases, without exploring critical thinking, awareness and clarification of values. They also emphasize the existence of gradation in the type of analysis, depending on the level of maturity of the concept: a) concept exploration, for new or uncritically used concepts; 2) concept elucidation, when there is no clear, shared and conscious agreement of meanings; and c) to deepen well defined concepts in literature. It approaches Morse when approaching the level of maturity of a concept but does not limit its analysis proposal to those already mature concepts.

In the analysis based on principles of Penrod and Hupcey,⁶ 14 concepts are abstractions from reality based on empirical data, which do not take concrete form and whose formation is the result of being in the world with others and not only the results of scientific efforts.⁶ 'Concept analysis' is a tool to broaden the understanding

of a phenomenon of interest, while 'concept improvement' aims to refine a concept, broadening its scientific understanding.⁶ Concepts are intertwined to form a theory, just like the threads of a tapestry. Hence the importance of the theoretical context in conceptual analysis, which will identify the defining theoretical strands of the concept, so that it is possible to tie and tie the knots, forming a stronger and more coherent theoretical tapestry. The theory (tapestry) is strengthened as each thread (concept) is clarified and developed.⁶ In the proposal, the critical analysis of the scientific literature produces evidence that reveals the state of science about the concept, the best estimate by scholars about the 'probable truth' around it, resulting in a definition that integrates the scientific understanding of the phenomenon and recreates the theoretical tapestry of the concept. The method reveals what is known about the concept in a determining point in time. The identification of gaps and inconsistencies in scientific conceptualization increases the power of conceptual analysis for the advancement of nursing as a science.¹⁴ Therefore, this method delineates the panorama of what is already known about the concept based on the available multidisciplinary literature, recognizing the state of the art about it and enabling its use in new studies to expand the state of science about it. By bringing as a result what already exists about a concept, it differentiates itself from Morse, whose method proposes to amplify what is currently known about the concept.

FINAL CONSIDERATIONS

This reflection presented different methods of conceptual analysis used in nursing, synthesizing them, analyzing them, highlighting their central aspects and comparing them among themselves. Even with the initial intention of indicating methods that better serve nursing, it comes to the end with the understanding that the choice depends on the level of development of the concept, reinforcing the proposition that there is a gradation, that is, concepts that are already widely used by nursing and those that are appearing in the speeches and writings of the discipline. In addition, the philosophical and conceptual perspective of the researcher influences the choice of method.

When studying conceptual analysis, one gets the impression that it can be a very complex activity with broad stages, with subsequent analyses that suggest an inexhaustible cycle in which one tries to deepen more and more the clarity of a concept. It is, without a doubt, important to clarify concepts, as long as this intellectual endeavor is not an end in itself and has a clear intentionality: to develop nursing theories, broaden the understanding of a concept, contextualize its application in a given reality, update it from the modifications it has undergone when applied.

Finally, it is understood that conceptual analysis is useful to evaluate how a concept has been used in nursing, if there have been changes in its use over time, to which situations it applies. However, the look of the researcher must extend beyond the analysis, exactly so that it is not lost in semantics and is turned, in some way, to practice and to research in nursing. The elucidation

of a concept can lead to forms of evaluation, of measure and, by extension, to forms of care.

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