Revista Brasileira de Enfermagem
REBEn

Content validation in concepts of management and managerial practices in Nursing

Validação de conteúdo em conceitos de gestão e gerenciamento na Enfermagem

Validación de contenido en conceptos de gestión y gerenciamiento en la Enfermería

Abel Silva de Meneses[I]
ORCID: 0000-0003-1632-2672

Isabel Cristina Kowal Olm Cunha[I]
ORCID: 0000-0001-6374-5665

[I]*Universidade Federal de São Paulo. São Paulo, São Paulo, Brazil.*

How to cite this article:
Meneses AS, Cunha ICKO. Content validation in concepts of management and managerial practices in Nursing. Rev Bras Enferm. 2022;75(4):e20210600. https://doi.org/10.1590/0034-7167-2021-0600

Corresponding author:
Abel Silva de Meneses
E-mail: enfermeiro.meneses@gmail.com

Submission: 08-30-2021 **Approval:** 02-01-2022

ABSTRACT

Objectives: to define and validate 37 concepts emanating from the epistemology of knowledge about Nursing Administration. **Methods:** theoretical-methodological study using the Delphi technique in 37 concepts and definitions built on the knowledge of more than half a century of research on Nursing Administration. The concepts were submitted to the judgment of a panel of 21 judges and the validation was measured by the content validity index (> 0.78) and Kappa coefficient (> 0.61). **Results:** enunciation of 37 concepts and definitions capable of reflecting the knowledge about Nursing Administration. The 37 concepts were validated by the judges, resulting in content validity indices that ranged from 0.81 to 1.00, with reliability higher than 0.79. **Conclusions:** the epistemological solution presented was validated by the judges with indices above 0.80 and high reliability of universal agreement, constituting a new object of ontological understanding for the scientific nursing community.
Descriptors: Nursing Administration Research; Evidence-Based Nursing; Knowledge; Concept Formation; Validation Studies.

RESUMO

Objetivos: definir e validar 37 conceitos emanados da epistemologia do saber sobre Administração em Enfermagem. **Métodos:** estudo teórico-metodológico empregando a técnica Delphi em 37 conceitos e definições construídos segundo o saber de mais de meio século de pesquisas sobre Administração em Enfermagem. Os conceitos foram submetidos ao julgamento de um painel de 21 juízes e a validação mensurada pelo índice de validade de conteúdo (> 0,78) e coeficiente Kappa (> 0,61). **Resultados:** enunciação de 37 conceitos e definições capazes de refletir o saber sobre Administração em Enfermagem. Os 37 conceitos foram validados pelos juízes, resultando em índices de validade de conteúdo que variaram de 0,81 a 1,00, com confiabilidade superior a 0,79. **Conclusões:** a solução epistemológica apresentada foi validada pelos juízes com índices superiores a 0,80 e alta confiabilidade de acordo universal, configurando-se em um novo objeto de entendimento ontológico para comunidade científica de enfermagem.
Descritores: Pesquisa em Administração de Enfermagem; Enfermagem Baseada em Evidências; Epistemologia; Formação de Conceito; Estudos de Validação.

RESUMEN

Objetivos: definir y validar 37 conceptos emanados de la epistemología del saber sobre Administración en Enfermería. **Métodos:** es un estudio teórico-metodológico que empleó la técnica Delphi en 37 definiciones y conceptos construidos según el saber de más de medio siglo de investigaciones sobre Administración en Enfermería. Los conceptos se sometieron ante 21 jueces y la validación se obtuvo mediante el índice de validez de contenido (> 0,78) y el coeficiente Kappa (> 0,61). **Resultados:** se determinaron 37 conceptos y definiciones capaces de reflejar el saber sobre la Administración en Enfermería. Los 37 conceptos fueron validados por los jueces, dando como resultado, índices de validez de contenido de 0,81 a 1,00, con fiabilidad superior a 0,79. **Conclusiones:** los jueces validaron esta solución epistemológica con índices superiores a 0,80 y fiabilidad alta de acuerdo universal, estableciéndose como un nuevo objeto de comprensión ontológica para la comunidad científica enfermera.
Descriptores: Investigación en Administración de Enfermería; Enfermería Basada en la Evidencia; Espistemología; Formación de Concepto; Estudios de Validación.

ONLINE VERSION ISSN: 1984-0446

INTRODUCTION

All over the world, nurses have been occupying more and more management spaces in the strategic organization chart of health institutions[1-2]. As a result, the scope of challenges in the work process of administering in nursing (WPAN) has become complex, requiring evidence-based policies to prepare nursing managers[3-5], especially those that communicate archetypes of phenomena[6].

Scientists who studied the object by becoming a nursing manager reported that the lack of clarity regarding the role of manager or leader can limit nurses' management practice, since it is necessary to know what is going to be developed[7]. The gaps in the configuration of this knowledge reverberate in an object of reflection[8], aspiring to epistemological solutions capable of validating the formation of concepts that represent the structure of knowledge about Nursing Administration (NA) [6]. Other knowledge structure proposals indicate support for the understanding of nursing phenomena and practices[9].

The recent change in the Nursing knowledge tree at the funding agency, in which the NA configures the subarea 'Nursing in Management and Management', constitutes a moment of paradigm transformation and endorses the opportunity to appreciate the phenomena about NA[10].

OBJECTIVES

To define and validate 37 concepts emanating from the epistemology of knowledge about NA.

METHODS

Ethical aspects

This study was preceded by the approval of the Research Ethics Committee of the Federal University of Sao Paulo and consent of the research participants according to Resolution 466/12.

Design, period and study setting

This is a theoretical-methodological study using the Delphi technique[11], developed in the first quarter of 2021 at a public university in Sao Paulo in Brazil. The study was guided by the Guidelines for Reporting Reliability and Agreement Studies (GRRAS)[12].

Sample, inclusion and exclusion criteria

The sample was obtained by the function $n=(Z\alpha^2.p.(1-p))/e^2$: "$Z\alpha^2$" is the 95% confidence interval, "p" is the expected proportion of judges (78%) agreeing for validation and "e" sets the sample error difference of 22%; $n=(1.96^2\ 0.78\ 0.22)/0.22^2$; n~14. If 14 judges represent the 78% to agree, to reach 100%, the minimum estimated sample must be 18 judges[13].

A total of 74 potential judges were identified in the Lattes and Sucupira platforms and in the Meneses database[14], but 16 had no contact, 7 declined the invitation and 30 did not respond, leaving 21 participating judges. Considering that the reliability of the validation depends on the expertise of the judges[11-15], the panel was composed of those who reached the minimum of 50% of the potential points expected in the three work processes relevant to the study, following the selection criteria in Table 1, illuminated by care paradigms[3,16].

Study protocol

The primary source was the Meneses database[14], containing 635 Brazilian graduate research products on NA communicated during half a century of scientific knowledge. From the knowledge about NA, 37 concepts (knowledge units)[6], were distinguished, parameterized by the idea of 'Collective Thought' and 'Thinking Style', according to Ludwik Fleck's epistemology on knowledge production[17].

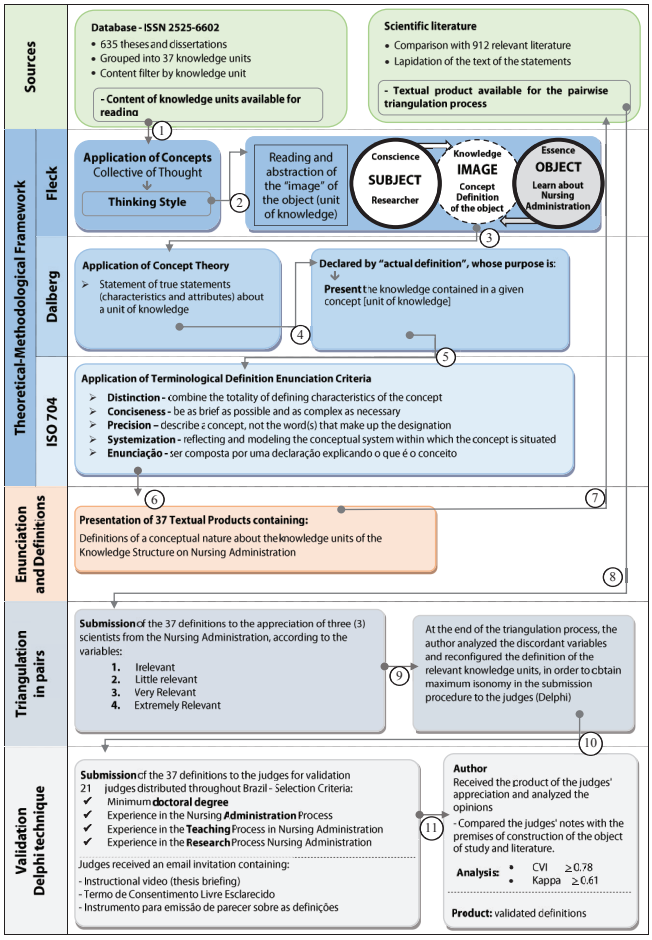
The theoretical mechanism of cognitive abstraction of the phenomena of knowledge about NA happened according to the subject-object relationship, as knowledge arises from the attempts of the 'subject' (knowing consciousness) to define the 'object' (things or ideas), in order to name the objective aspects of the object's 'image' (facts or phenomena) of interest[8]. After that, the conceptual description was carried out according to Ingetraut Dahlberg's Concept Theory[18], in addition to the terminological definition assumptions of the International Organization for Standardization (ISO) 704:2009[19].

The definition of concepts was enunciated, knowing that definition is the descriptive representation of the concept that the subject abstracts from the object, within a domain and in a certain context of use, the WPAN in this case[3,8]. The text of the statements was cut by comparison with the relevant scientific literature (912 research sources) and submitted to the triangulation process by three scientists from the NA.

Table 1 – Distribution of the number of judges according to selection criteria, São Paulo, São Paulo, Brazil, 2021

Work Process	Points		Judge Selection Criteria	Judges	
				n	%
Search	5				
		2	Minimum doctoral degree	21	100.0
		2	At least four published scientific articles on Nursing Administration	13	61.9
		1	At least six years of employment in a research group on Nursing Administration	16	76.2
Teach	3				
		2	At least two orientations completed by stricto sensu graduate students on Nursing Administration	11	52.4
		1	At least four years of experience in the teaching of Nursing Administration in the stricto sensu graduate program	11	52.4
Manage	2				
		2	At least five years of experience in nursing management practice	17	81.0

The draft of the 37 concepts and definitions, combined on a psychometric scale (variables: 1=Not at all relevant; 2= Little relevant; 3=Very relevant; 4=Very relevant) and space for comments, was submitted to the 21 judges via electronic invitation along with an instructional video and a thesis briefing <https://youtu.be/cSEQz5uVh0E>. Figure 1 summarizes the study protocol.



ISSN – International Standard Serial Number; ISO – International Organization for Standardization; CVI – Content Validity Index.

Figure 1 – Operational perspective of the research protocol, São Paulo, São Paulo, Brazil, 2021

Results analysis and statistics

Concept validation was attributed to reaching a content validity index (CVI) > 0.78 according to the CVI function= number of responses 3 or 4/total number of responses[15].

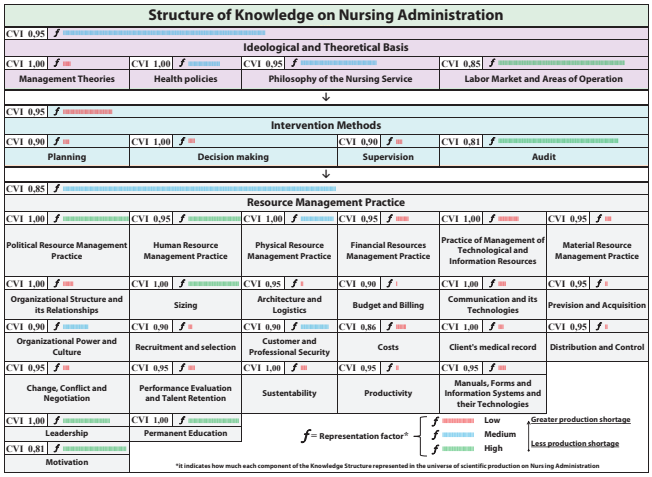
Following the paradigm of nursing methodologies[15], reliability was measured by the Kappa agreement coefficient, obtained by the equation K=CVI-Pc/1-Pc, where "K" is the agreement coefficient, "CVI" is the content validity index and "Pc" is the probability of universal agreement chance.

Among the five interval parameters of K-value assessment, poor agreement [0.00 - 0.20], mild agreement [0.21 - 0.40], moderate agreement [0.41 - 0.60], substantial agreement [0.61 - 0.80] and almost perfect agreement [0.81 – 1.00][20], the minimum reliability was "substantial agreement", designated by K-value > 0.61[15].

RESULTS

The characteristics of the judges relevant to the object of study in addition to those listed in the selection were as follows: 61.9% (13) have graduated for more than 30 years, 33.3% (7) are post-docs and full professors, 71.4% (15) are journal reviewers and editorial board members and 33.3% (7) are research group leaders.

Figure 2 presents the 37 concepts and the CVI achieved in the Delphi validation.



CVI – Content Validity Index.
Source: Adapted from Meneses, Sanna[6].

Figure 2 – Structural perspective of concepts according to the Content Validity Index achieved, São Paulo, São Paulo, Brazil, 2021

The 37 concepts were validated by the judges with a CVI that ranged from 0.81 to 1.00. The measurement of the reliability of agreement in this validation is shown in Figure 3.

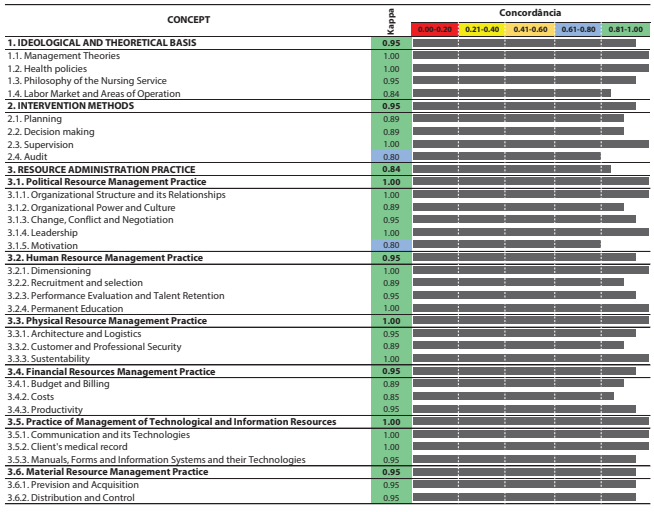


Figure 3 – Distribution of concepts, according to agreement between judges, São Paulo, São Paulo, Brazil, 2021

The reliability in the validation of the 37 concepts was higher than 0.79, with two (5.4%) reaching substantial agreement, 22 (59.5%) reaching almost perfect agreement and 13 concepts (35.1%) reaching perfect agreement. Considering that there is a scientific density capable of homogenizing ideas and harmonizing the phenomena of knowledge about NA, the enunciation of the definition of the 37 concepts is evidenced in Chart 1, the main product of this endeavor.

Chart 1 - Matrix of validated concepts and definitions, São Paulo, São Paulo, Brazil, 2021

CONCEPT		**DEFINITION**
1.	IDEOLOGICAL AND THEORETICAL BASES	Set of formulations of a conceptual nature that lends itself to understanding the phenomena that involve the work process of Nursing Administration.
1.1.	Management Theories	Theoretical-philosophical strands of different conceptions or concepts, principles, propositions and fundamental characteristics about the nature of the phenomena that involve Nursing Administration.
1.2.	Health policies	Ideological propositions generally governmental, legitimized through legislation, guidelines or similar formulations, directed to public reason and social interest, endowed with strategic objectives aimed at the conformation and organization of the health care system and its Nursing Services.
1.3.	Philosophy of the Nursing Service	Beliefs, values, traditions, priorities and power relations or other cultural conceptions that represent the roots of the Nursing Service, generally validated by pronouncing the mission, vision and values of Nursing Services.
1.4.	Labor Market and Areas of Operation	Product of the interaction between the phenomena that regulate the demand and supply of the Nursing workforce in productive spaces, taking into account the scope of diversification of Nursing specialties, subsidized by this science, and the economic and social situation circumscribed in certain geopolitical scenario.
2.	INTERVENTION METHODS	Set of actions organized in a logical sequence, which operates in the light of the Ideological and Theoretical Bases of Nursing Administration, aiming to transform the object of work through the resources to be administered.
2.1.	Planning	Predetermination of a succession of strategic and dynamic procedures, conditioned to a certain management guideline, due to the Philosophy of the Nursing Service.
2.2.	Decision making	Deliberative process arising from intellectual reflection on a set of complex alternatives, the result of choosing the alternative with the least possibility of uncertainty, but which is related to the Philosophy of the Nursing Service.
2.3.	Supervision	Process of improvement of the productive system of Nursing with the effect of catalyzing resources, cooperating efforts and harmonizing processes in line with the purpose of Nursing Services.
2.4.	Audit	Assessment of the quality of the Systematization of Nursing Care and of the resources of the Nursing Services, through the appreciation of nursing documentation and other sources of information, according to previously defined reference standards.
3.	RESOURCE ADMINISTRATION PRACTICE	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in approaching the resources necessary for Nursing work processes.
3.1.	Political Resource Management Practice	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in approaching the political mechanisms that nurses appropriate in the field of relationships as a means of influencing the behavior of the nursing workforce and other actors with whom they relate.
3.1.1.	Organizational Structure and its Relationships	Ordering a social body with varying levels of autonomy, attributed through hierarchical interdependence and cooperation relationships existing in a certain context of Nursing Services.
3.1.2.	Organizational Power and Culture	Field of forces in which one or more actors assume a potentially strategic position on the will of others, influenced by a set of values and other symbolic elements that represent the identity of Nursing Services
3.1.3.	Change, Conflict and Negotiation	Transformations of any nature that affect the characteristics of Nursing Services, which can trigger antagonism of ideas and instability in Nursing's social relations, whose management depends on a technical mediation process that provides adjustment in Nursing's interpersonal relationships.
3.1.4.	Leadership	Exercise of influence on the social relations of the Nursing workforce and other actors related to it, varying in style according to the circumstances, with the effect of cooperating efforts and taking advantage of the maximum potential in the performance of the productive force towards the intended objective.
3.1.5.	Motivation	Process capable of stimulating the volitional behavior of the Nursing workforce in favor of the objectives of the Nursing Services, using approaches that provide the perception of the objectives as an object of satisfaction in the reward system of this workforce.
3.2.	Human Resource Management Practice	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in the approach to the nursing workforce and its integration in the context of Nursing Services.
3.2.1.	Sizing	Systematic process used in the planning and quantitative-qualitative assessment of the nursing workforce, through intervening variables (uniqueness and philosophy of Nursing Services, epidemiological context, workload and regulatory parameters of production processes) that ensure nursing care of quality and free of risks to the population and professionals.

To be continued

Chart 1 (concluded)

CONCEPT		**DEFINITION**
3.2.2.	Recruitment and selection	Process that seeks to attract candidates with the potential to occupy nursing jobs according to predefined characteristics, submitting them to methods of distinction and choice of those whose competence is in line with the philosophy of the Nursing Service.
3.2.3.	Performance Evaluation and Talent Retention	Judgment on the use of the nursing workforce in a certain time interval, according to a set of desirable characteristics in the context of the Nursing Service philosophy, supporting the proposition of personnel development policies favorable to the permanence of actors capable of adding value to the Nursing Service.
3.2.4.	Permanent Education	Pedagogical strategy outlined in the context of Nursing Services, carried out through approaches and reflections aimed at transforming the professional practices of the nursing workforce.
3.3.	Physical Resource Management Practice	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in the approach of physical spaces, facilities, ambience and productive processes used in Nursing activities.
3.3.1.	Architecture and Logistics	Art of outlining physical-spatial structures capable of housing the facilities of Nursing Services, whose effectiveness depends on the systematization of productive processes that provide the rationalization of flows and the efficiency of resources for quality and risk-free nursing care.
3.3.2.	Customer and Professional Security	A set of policies and standards of procedures that determine quality nursing care that is free from risks and harm to clients and professionals.
3.3.3.	Sustainability	Environmental responsibility policy sensitive to the development of eco-efficient strategies in Nursing Services.
3.4.	Financial Resources Management Practice	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in the approach of the monetary means used in the financing of Nursing activities.
3.4.1.	Budget and Billing	Administrative work plan that expresses in monetary terms the economic policy of Nursing Services for a given year, taking into account the set of receivables in monetary value obtained from the marketing of Nursing activities in a certain period.
3.4.2.	Costs	Monetary investments applied in the financing of Nursing activities.
3.4.3.	Productivity	Efficient result of the quantitative-qualitative relationship between the product of Nursing work processes and the number of resources invested in it in a certain period.
3.5.	Practice of Management of Technological and Information Resources	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in the approach of technological instruments and means of information used in Nursing activities.
3.5.1.	Communication and its Technologies	Sharing of ideas, beliefs, attitudes or other ideological conceptions through symbolic interaction in Nursing interpersonal relationships, improved through the contribution of applied scientific knowledge in the form of processes, methods, techniques, instruments or other technological innovations that provide greater practical use of the know about interactivity between actors.
3.5.2.	Client's medical record	Personal document of a legal, confidential and scientific nature, object of communication between health professionals who, regardless of the means of archival support - traditional or electronic, integrates information on the determinants of health status and the care provided to an individual during his or her life cycle.
3.5.3.	Manuals, Forms and Information Systems and their Technologies	Concise technical productions containing instructions necessary to carry out a certain nursing activity, such as filling in data collection instruments consisting of predefined fields, whose formulations serve a certain purpose, such as subsidizing the flow of data to the tools designed to collect , store, process and retrieve information about nursing activities, improved through the contribution of scientific knowledge applied in the form of processes, methods, techniques, instruments or other technological innovations that provide greater practical use of knowledge about information in Nursing.
3.6.	Material Resource Management Practice	Operationalization of intervention methods associated with the understanding of the ideological and theoretical bases in approaching the material elements used in the productive processes of Nursing.
3.6.1.	Prevision and Acquisition	Process of standardization, classification, technical specification and estimation of materials needed for the nursing production process in a certain period, carried out by the procedure for obtaining inputs that involves quotation, negotiation and purchase, receipt, quality control and storage.
3.6.2.	Distribution and Control	Availability of materials in appropriate quantity and frequency to ensure the continuity of the nursing production process, regulated according to methods of evaluation and monitoring of logistical behavior, consumption and intervenient that may impair the continuity of the nursing production process.

DISCUSSION

Capturing half a century of knowledge about NA and configuring it in a systematic arrangement that included 37 concepts (knowledge units) and their definitions required an epistemological immersion in the object of study. But it is imperative that this be done so that epistemological studies produce significant advances for the science of nursing, as noted by an international nursing epistemologist when identifying many researches on nursing epistemology with repeated content, little in-depth and limited to the concept[21].

In his literary production, information scientist stimulates reflections on the epistemology of knowledge and states that *it is by formulating statements about the necessary or possible attributes of objects that the characteristics of the respective concepts are obtained*[18]. While the construct represents the mental idea about an object, that is, the mental image, the concept formulated translates this same conception of 'truth' into language and terminology capable of making the image of this object present to the senses and understandable to human intelligence[8].

To assess whether in fact the concepts and definitions in this study fulfilled the function of translating the concept of 'truth' and being understandable to human intelligence, they were submitted to the judges' judgment.

Reliability and Agreement of the Panel of Judges

Among the potential judges who received the invitation, 63.8% abstained, above what is observed in the literature (30% to 50%)[11]. The most coherent evidence to explain this high rate of abstention would be the occupation of judges in dealing with the SARS-CoV-2 pandemic. However, the risk of abstention was considered in the selection and did not affect the reliability of the validation, since the number of participating judges was above the minimum expected statistic, at 14.3%[13].

The panel included scholars on topics present in the evaluated concepts and who have cultivated the science of nursing since the second generation of nurse researchers, the self-taught generation (1960-1970), through four of the five generations of nursing scientists[22].

Considering the importance of the object of study for Nursing, it was imperative that the panel of judges present expertise in the three fundamental work processes for the configuration of knowledge and action on AE and, above all, that they demonstrate autonomy in the production of knowledge and the ability to in-depth reflection for the volitional decision to validate, or not to validate, the epistemological product under consideration, which in fact happened[3,16].

They were judges from the national territory, concentrated in the Southeast and South of Brazil, experienced in teaching, research and management - management of councils and class associations, legislative positions, successful entrepreneurs of their own businesses and executives of public and private institutions.

All concepts reached validity and substantial agreement. However, five obtained CVI < 0.90, 'Costs', 'Labor Market and Areas of Activity', 'Resource Management Practice', 'Audit' and 'Motivation', being that in these last two, the K-value (0.80) was lower than the others.

This phenomenon was more prevalent in the objects used less frequently in the WPAN, except for 'Audit', in which some judges understood that the definition could include scope beyond nursing. However, the object of study in this research was limited to Nursing.

Knowledge is presented in three main interfaces - "subject, image and object" -, whose correspondence in NA is represented by 'Ideological and Theoretical Bases' (image), 'Intervention Methods' (subject) and 'Management Practices'. Resources' (object)[6,23].

Ideological and Theoretical Bases

The set of concepts that make up this title configure the sphere of the 'image', occupying an abstract position between the spheres of the subject and the object (subject-image-object), in the activity of interpreting the phenomena that involve the WPAN. Through the 'image' interface, knowledge scales the logic, which has everything to do with management and other organizational instructions[23].

For example, when a nurse operationalizes the WPAN, the 'Ideological and Theoretical Bases' elucidate the reason why the work must be done, establishing a conscious 'purpose' according to the human need that triggered the work. There would be no care possible if there was no "coordination of the work process to assist in nursing", the purpose of the WPAN [3].

In this aspect, the ideological domain is configured according to the universe of ideas specific to Nursing, aspiring to distinguish its identity in NA, as did Florence Nightingale when she presented the managerial ideology of modern nursing, publishing the book *Notes on issues that affect nursing. health, efficiency and hospital administration of the British army* (1858)[24].

On the other hand, the theoretical domain is configured according to the philosophical aspects that elucidate the phenomena that involve NA, either through nursing models or retranslated from other subjects. It is important that the AE builds scientific density and advances in the observation and distinction of its own phenomena, even if envisioning middle-range theories, since the product of the WPAN is to guarantee *conditions for care to be carried out efficiently and effectively*[3,25].

It is possible that the concept of 'Labor Market and Areas of Practice' has its occupation in the 'Ideological and Theoretical Bases' questioned. However, it is an ideological concept and must occupy the sphere of the image, as did the nursing epistemologist in relation to the topic "Production in Health and Work in Nursing" of the "organizational" category[23].

Intervention Methods

The set of concepts that integrate the 'Intervention Methods' configures the sphere of the 'subject', occupying an active position on the sphere of the object, which is glimpsed by the 'subject' according to the interpretation obtained by the image sphere (subject-image- object). Through the 'subject' interface, knowledge is consistent with volitional and cognitive activity, which is related to the idea of managerial competence[23,26].

From the WPAN perspective, the 'Intervention Methods' are used by nurses in the administrative activity in a logical sequence, triggered in the light of the 'Ideological and Theoretical Bases' to operationalize the resources used in care. They are modulated according to the responses observed in the work object (resources) in order to meet the purpose of the WPAN[3,6].

A recent study on the management activity of 'Intervention Methods' showed a change in the 'Decision Making' process, due to changes in the interpretation of the 'Ideological and Theoretical Bases' measured at two ideologically different moments, demonstrating the applicability of the relationships between the concepts of AE in the operationalization of the WPAN[27].

Resource Management Practice

The set of concepts that make up this group configures the sphere of the 'object', occupying an operational position when activated by the sphere of the subject, according to the interpretation obtained by the sphere image (subject-image-object). Through the interface of the 'object', knowledge corresponds to the ontological dimension, which has everything to do with the effectiveness of nursing care[8,23].

In the WPAN stages, the work object corresponds to the 'resources' used in care that, when in operation, are the 'Resource Management Practices', whose specificity is given according to the type of resource addressed (human, physical, financial, material and technological and information), unfolding in the transformation of objects that make up each of these resources[3].

From this perspective, the 'Resource Management Practice' is materialized with the application of the 'Intervention Methods' on resource objects, in the light of the 'Ideological and Theoretical Bases' which without it there would be no purpose for the operationalization of the managerial practice.

The practical dimension (know-how) was explained by a Brazilian nursing epistemologist in an approach to the sphere of the object, demonstrating that its knowable dimension/objective reality refers to what is considered (thinking/knowing), or what can be considered, about what the professional conscience gives to itself as objectified real, and also as everything that can be predicted about the professional's "know-how"[23].

For example, when a nurse performs the systematization of nursing care, he/she analyzes the client's needs (Intervention Methods) and issues judgment (Ideological and Theoretical Bases) about what is necessary to provide for the provision of risk-free care (Practice of Resource Administration). Knowledge is produced in the practice environment and, although nursing is making efforts on advanced nursing practices, its products have been directed towards care[28]. This is an opportunity to produce evidence on advanced NA practices, as few are part of management in this theme, except for some related to leadership[29-30].

It is estimated that the conceptual objects of 'Resource Management Practice' are sources of opportunity for new scientific investigations on advanced nursing practices, especially those dedicated to care management[31], but they can also be seen as means of achieve efficiency in the results of nursing services[32].

So, the structural scheme of the concepts and the definitions presented will be able to grant claims for recognition of the NA aspired since the proposition of the first lines of research[23].

Study limitations

Lack of regular scientific productivity, anachronistic bibliography, little diversified and concentrated on some concepts, such as leadership, are the limiting factors for a deeper theoretical appreciation of concepts with a smaller repertoire. In addition, epistemological studies on NA are rare to find both in national and international literature.

Contributions to the area

From an epistemological point of view, the research product presented can act as a knowledge base for objects of study on concept analysis for the development of medium-range NA theories. In addition, it supports the construction of lines of research and serves as a support to elucidate research priorities on AE, another object of frequent debate in the national and international scientific nursing community.

From the ontological point of view, it can guide nurses in the teaching and experimentation of management, through the logic of thoughts that achieve the best results in the operationalization of the WPAN, in addition to subsidizing the exercise of reflections on advanced NA practices.

CONCLUSIONS

The study showed the definition of 37 concepts emanating from the epistemology of knowledge about AE, built over half a century of Brazilian postgraduate production. The epistemological solution presented to distinguish knowledge about NA was validated by the judges with indices higher than 0.80 and high reliability of universal agreement, configuring a new object of ontological understanding in NA know-how.

The enunciation of the concepts evidences the NA's identity profile, according to the epistemological relevance found in its repertoire of knowledge, indicating how the NA phenomena may be (re)known or associated with new phenomena. In addition, it can raise new research objects capable of expanding the scope of evidence in this field of knowledge.

The material presented does not exhaust the entire panorama of knowledge about NA, nor was it intended to be definitive in its entirety, being subject to submission to other methods of appreciating knowledge about NA, such as those dedicated to concept analysis by nursing.

SUPPLEMENTARY MATERIAL

Dataset available at SciELO Data https://doi.org/10.48331/scielodata.JX1BV1.

REFERENCES

1. Molin TD, Oliveira JLC, Tonini NS, Oliveira RM, Souza RF, Anchieta DW, et al. Proactive behavior of hospital nurses: comparison between jobs. Cogitare Enferm. 2019;24:e58174. https://doi.org/10.5380/ce.v24i0.58174

2. Batcheller J, Yoder LH, Yoder-Wise PS, Williams S. Preparing Chief Nurse Successors: an evaluation of the Chief Nursing Officer Academy. J Nurs Adm. 2019;49(1):24-7. https://doi.org/10.1097/nna.0000000000000703
3. Sanna MC. [Work processes in Nursing]. Rev Bras Enferm. 2007;60(2):221-4. https://doi.org/10.1590/S0034-71672007000200018 Portuguese.
4. Copelli FHS, Oliveira RJT, Oliveira CMS, Meirelles BHS, Mello ALSF, Magalhaes ALP. [Complex Thinking and its Impact on Nursing and Health Management]. Aquichan. 2016;16(4):501-12. https://doi.org/10.5294/aqui.2016.16.4.8 Portuguese.
5. Warshawsky NE, Caramanica L, Cramer E. Organizational support for nurse manager role transition and onboarding: strategies for success. J Nurs Adm. 2020;50(5):254-60. https://doi.org/10.1097/nna.0000000000000880
6. Meneses AS, Sanna MC. Structure of Knowledge about Nursing Administration in Brazilian Graduate Programs. Texto Contexto Enferm. 2016;25(1):e0380015. https://doi.org/10.1590/0104-0707201500000380015
7. Lanzoni GMM, Magalhães ALP, Costa VT, Erdmann AL, Andrade SR, Meirelles BHS. Becoming nursing manager in the nested and complex border of caring and management dimensions. Rev Eletrônica Enferm. 2015;17(2):322-32. https://doi.org/10.5216/ree.v17i2.29570
8. Meneses AS, Cunha ICKO. Evidence on Nursing Administration Epistemology. Rev Bras Enferm. 2020;73(Suppl 5):e20190275. https://doi.org/10.1590/0034-7167-2019-0275.
9. Ramos-Morcillo AJ, Harillo-Acevedo D, Ruzafa-Martinez M. Using the Knowledge-to-Action Framework to understand experiences of breastfeeding guideline implementation: a qualitative study. J Nurs Manag. 2020;28(7):1670-85. https://doi.org/10.1111/jonm.13123
10. Barros ALBL, Nóbrega MML, Santos RS, Cezar-Vaz MR, Pagliuca LMF. Research in nursing and modification of the knowledge tree in CNPq: contribution to science. Rev Bras Enferm. 2020;73(1):e20170911. https://doi.org/10.1590/0034-7167-2017-0911
11. Barrett D, Heale R. What are Delphi studies? Evid Based Nurs. 2020;23(3):68-9. https://doi.org/10.1136/ebnurs-2020-103303.
12. Kottner J, Audige L, Brorson S, Donner A, Gajewski BJ, Hróbjartsson A, et al. Guidelines for Reporting Reliability and Agreement Studies (GRRAS) were proposed. Int J Nurs Stud. 2011;48(6):661-71. https://doi.org/10.1016/j.jclinepi.2010.03.002
13. Lopes MV, Silva VM, Araujo TL. Methods for establishing the accuracy of clinical indicators in predicting nursing diagnoses. Int J Nurs Knowl. 2012;23(3):134-9. https://doi.org/10.1111/j.2047-3095.2012.01213.x
14. Meneses AS. Structure of Knowledge about Nursing Administration [CD-ROM][Internet]. São Paulo (SP): YENDIS; 1963 - 2015. 2016[cited 2021 Jan 5]. SciELO Data. Available from: https://doi.org/10.48331/scielodata.JX1BV1
15. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? appraisal and recommendations. Res Nurs Health. 2007;30(4):459-67. https://doi.org/10.1002/nur.20199
16. Guimarães HCQCP, Pena SB, Lopes JL, Lopes CT, Barros ALBL. Experts for validation studies in nursing: new proposal and selection criteria. Int J Nurs Knowl. 2016;27(3):130-5. https://doi.org/10.1111/2047-3095.12089
17. Barbosa L, Pereira Neto A. [Ludwik Fleck (1896-1961) and knowledge translation: considerations about the genealogy of a concept]. Saúde Debate 2017;41(esp):317-29. https://doi.org/10.1590/0103-11042017S23 Portuguese.
18. Dahlberg I. [Concept Theory]. Ci Inf [Internet]. 1978 [cited 2021 Jan 5];7(2):101-7. Available from: http://revista.ibict.br/ciinf/article/view/115/115 Portuguese.
19. International Organization for Standardization (ISO). Reference number ISO 704:2009(E): Terminology work - Principles and methods[Internet]. Geneva Switzerland: ISO; 2009. [cited 2021 Mar 27]. Available from: https://www.iso.org/standard/38109.html
20. Landis J, Koch G. The measurement of observer agreement for categorical data. Biometrics. 1977;33(1):159-74. https://doi.org/10.2307/2529310
21. Rodgers BL, Jacelon CS, Knafl KA. Concept analysis and the advance of nursing knowledge: state of the science. J Nurs Scholarsh. 2018;50(4):451-9. https://doi.org/10.1111/jnu.12386
22. Salles EB, Barreira IA. [The development of nursing scientific community in Brazil]. Texto Contexto Enferm. 2010;19(1):137-46. https://doi.org/10.1590/S0104-07072010000100016 Portuguese.
23. Carvalho V. [Research lines and priorities of nursing: proposal with gnoseological distinction for the grouping of the graduate scientific production in nursing]. Esc Anna Nery. [Internet]. 2002 [cited 2021 Apr 01];6(1):145-54. Available from: https://s3-sa-east-1.amazonaws.com/publisher.gn1.com.br/eean.edu.br/pdf/v6n1a16.pdf Portuguese.
24. Nightingale F. Notes on matters affecting the health, efficiency and hospital administration of the British army founded chiefly on the experience of the late war. Presented by request to the Secretary of State for War[Internet] London (UK): Harrison & Sons; 1858 [cited 2021 Apr 15]. 1.075 p. Available from: https://archive.org/details/b20387118/page/n7/mode/2up
25. Im EO. Theory Development Strategies for Middle-Range Theories. ANS Adv Nurs Sci. 2018;41(3):275-92. https://doi.org/10.1097/ans.0000000000000215
26. García AG, Pinto-Carral A, Villorejo JS, Marqués-Sánchez P. Nurse Manager Core Competencies: A Proposal in the Spanish Health System. Int J Environ Res Public Health. 2020;17(9):3173. https://doi.org/10.3390%2Fijerph17093173
27. Di Fiore T, Zito A, Berardinelli A, Bena JF, Morrison SL, Keck DE, et al. Staff Perceptions of Decision-Making in a Shared Governance Culture. J Nurs Adm. 2018;48(11):561-6. https://doi.org/10.1097/nna.0000000000000680
28. Schober M, Stewart D. Developing a consistent approach to advanced practice nursing worldwide. Int Nurs Rev. 2019;66(2):151-3. https://doi.org/10.1111/inr.12524.

29. Heinen M, van Oostveen C, Peters J, Vermeulen H, Huis A. An integrative review of leadership competencies and attributes in advanced nursing practice. J Adv Nurs. 2019;75(11):2378-92. https://doi.org/10.1111/jan.14092

30. Wood C. Leadership and management for nurses working at an advanced level. Br J Nurs. 2021;30(5):282-6. https://doi.org/10.12968/bjon.2021.30.5.282

31. Oliveira JLC, Toso BRGO, Matsuda LM. Advanced practices for care management: reflections on the Brazilian Nursing. Rev Bras Enferm. 2018;71(4):2060-5. https://doi.org/10.1590/0034-7167-2017-0115

32. Ko A, Burson R, Mianecki T. Advanced nursing practice roles: closing the knowledge gap. Nurs Manage. 2019;50(3):26-36. https://doi.org/10.1097/01.numa.0000553494.24977.2d