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BIBLIOMETRIC ANALYSIS OF SCIENTIFIC PRODUCTION ABOUT VALIDATION

ANÁLISE BIBLIOMÉTRICA DA PRODUÇÃO CIENTÍFICA SOBRE VALIDAÇÃO ANÁLISIS BIBLIOMÉTRICO DE LA PRODUCCIÓN CIENTÍFICA SOBRE LA VALIDACIÓN

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ABSTRACT

Objective: analyzing scientific production related to the thematic validation. **Method:** a descriptive study of bibliometric type. There were selected 87 articles published from the period 2009-2013 in ScieLO library, Brazil, and analyzed the formation, qualification and operation of the authors to the institutions represented in the articles, the journal in which they were published and most reported. **Results:** there is a significant involvement of nurses, doctors and masters in development of studies, predominantly in the publications of educational and research institutions from the Southeast. The results show the importance of postgraduate research programs in the development and dissemination of knowledge. **Conclusion:** despite publications have demonstrated apparent quantitative and qualitative growth in scientific production about the theme of validation it is still small and concentrated in the southeastern region of Brazil. They become focused on the validation studies needed to discussing and dissemination of procedures for validity that can contribute to the advancement of clinical practice and research in nursing. **Descriptors:** Nursing; Validation studies; Validation.

RESUMO

Objetivo: analisar a produção científica que aborda a temática validação. **Método:** estudo descritivo do tipo bibliométrico. Foram selecionados 87 artigos publicados no período de 2009 a 2013 na biblioteca virtual SciELO, Brasil, e analisados quanto à formação, titulação e atuação dos autores às instituições representadas nos artigos, os periódicos em que foram publicados e os descritores mais citados. **Resultados:** há significativa participação de enfermeiros, doutores e mestres no desenvolvimento de estudos, predomínio nas publicações de instituições de ensino e pesquisa provenientes da região Sudeste. Os resultados evidenciam a importância dos programas de pós-graduação no desenvolvimento de pesquisa e divulgação do conhecimento. **Conclusão:** apesar das publicações terem apresentado aparente crescimento quantitativo e qualitativo, a produção científica acerca da temática validação é ainda pequena e concentrada na região Sudeste do Brasil. Fazem-se necessários estudos sobre validação voltados à discussão e à divulgação de procedimentos de validade para que possam contribuir ao avanço da prática clínica e de pesquisa na Enfermagem. **Descritores:** Enfermagem; Estudos de validação; Validação.

RESUMEN

Objetivo: analizar la producción científica relacionada con la validación temática. **Método:** un estudio descriptivo del tipo bibliométrico. Fueron publicados 87 artículos seleccionados a partir en el período 2009-2013 en la biblioteca SciELO Brasil, analizadas la formación, capacitación y operación de los autores, las instituciones representadas en los artículos del magazine en la que se más publicaron y reportaron. **Resultados:** existe una importante participación de enfermeras, médicos y maestros en los estudios de desarrollo, sobre todo en las publicaciones de las instituciones educativas y de investigación del sudeste. Los resultados muestran la importancia de los programas de investigación de postgrado en el desarrollo y difusión del conocimiento. **Conclusión:** a pesar de las publicaciones han demostrado un crecimiento cuantitativo y cualitativo evidente en la producción científica en el tema de la validación es todavía pequeño y se concentra en la región sureste de Brasil. Llegan a ser centrados en los estudios de validación necesarios para la discusión y difusión de los procedimientos para la validez que puede contribuir al avance de la práctica clínica y la investigación en enfermería. **Descritores:** Enfermería; Los estudios de validación; Validación.

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INTRODUCTION

Mensuration is an essential part of the scientific research, in various areas of knowledge, particularly in the health area, where some variables are measured using mensuration instruments, which must be evaluated to ensuring that really measure what they want to measure and be reproducible in other circumstances. Validation is a process that includes evaluating the reliability and validity of an instrument.

The process of reliability refers to the consistency with which the instrument measures the attribute, ie, when the instrument has reliability reveals similar results in repeated measures.¹ The reliability analysis of the proposed instrument will be effective through trust reproducibility by stages of test and retest. Being possible to say the smaller the variation produced by the instrument, in repeated measurements of an attribute, the greater its reliability, expressing whether this can be replicated with a guarantee of similar and accurate results.

The entire validation process seeks to ensuring isomorphism, ie, the equivalence between the properties of the psychological attribute and the representation of this object in the form of a measuring instrument. It can be studied relying on the following distinct types: Content Validation; Validation of Appearance; Validation Criteria; Validation of Construct and Clinic Validation.²

Content validation is a method based necessarily on trial by a panel of judges or experts with expertise in the content area, which must analyze the items and judge whether they are comprehensive and representative, or even if the content of each item relates to what you want to measure.³ Already the validity of appearance or of face, also considered a subjective way of validating the instrument, is the judgment of a panel of judges as to the clarity of items, ease of reading , understanding and presentation of the instrument consists of a superficial assessment by those who use the instrument. Therefore it should not be used as a single criterion, because this type of validity is not conferred the properties of measurement.³

The validation construct examines whether the instrument detects changes in conjectured theoretically construct, which provides the strongest evidence for a validation.⁴ While related validity criteria refers to the ability of the instrument to corresponding with other measures.⁵

Clinical validation is often used to validating instruments and nursing diagnoses, is based on the search for evidence of a specific diagnosis from the real clinical environment, in which data are obtained by direct evaluation of the patient's responses; it is performed by two expert nurses in the area.⁶

There are several steps to be employed for each type of validation mentioned, have valid instruments allows the development of research that helps to visualizing a construct, a factor that in turn can be a determining factor in the quality of care and quality of life. The process of validation of instruments that measure health status in general is hard, complex work and is not finite .⁷

The bibliometrics is used in various fields of knowledge as a method to obtaining evaluation indicators of scientific production. The principle of bibliometrics is to analyzing the scientific or technical activity by quantitative study of publications and its main objective is the development of increasingly reliable indicators.⁸

The bibliometric research is through the study of quantitative aspects of production, dissemination and use of information published.⁹ In health urges a growing need to measuring, demonstrating and documenting systematically and objectively the benefits or results of an intervention with in order to improving the quality of care. It is noticeable that studies to understand this reality, in many different contexts are relevant, as they contribute to rethinking on assists practices in health, and the creation of appropriate technologies for this reality. Therefore, this research aims to analyzing scientific production related to the thematic validation.

METHOD

This is a descriptive study of bibliometric type. It was used the SciELO library. In this research, the selection of publications was made based on criteria of inclusion and exclusion. Accordingly, it appropriated of the publication of original articles using the keywords validation studies, nursing and validation, arising descriptors in health sciences (DeCS) upon request. Words construct validity and clinical validations of instrument were also used. The research included articles published from January 2009 to December 2013, and the search and the data collection were conducted in November and January 2014. Exclusion criteria were all other types of publication (editorial, comments, reflection, experience report and literature review).

The selected articles were analyzed according to bibliometric data: training and academic degrees, institutional and geographic origin, journals in which the articles were published, language, knowledge of the area, more descriptors used, type of study, method and type of references. Data were obtained from the reading in full of articles following a collection instrument previously prepared data. The data relating to training and academic degrees were collected directly in the articles or by consulting the lattes curriculum of the authors, through the link curriculum ScienTI at the page of articles in SciELO.

RESULTS AND DISCUSSION

The study consisted of 91 articles identified from the selected descriptors, with the use of

the exclusion criteria, 04 were excluded. Thus the sample consisted of 87 articles.

Regarding training, academic qualifications and area of expertise there were identified professionals in various fields of knowledge. Authors' training in health significantly stand out nurses (35,9%), followed by the humanities, psychologists (24,4%). Among other formations had medical, physical educator, engineer, veterinarian, dentist, speech therapist, physiotherapist, biochemical and administrator. Given the results it found that most authors are in healthcare. Regarding the authorship of articles, it found (39,6%) that have a doctorate degree, followed by master's (33,4%). A significant participation of graduate students was observed.

Table 1. Distribution of authors as the formation and academic degree of the articles published in the period from 2009 to 2013.

Academic Formation	Academic Degree									
	Post-Doc		Doctorate		Master		Postgraduate		Total	
	n	%	N	%	n	%	n	%	n	%
Nurse	19	16,4	37	31,9	36	31	24	20,7%	116	35,9
Psychologist	03	3,8	39	4,9	26	3,2	11	14%	79	24,4
Physician	04	8,5	34	7,2	09	19%	-	-	47	100
Physical educator	01	3,8	04	15,3	13	50	08	30,7%	26	100
Dentist	10	66,7			05	33,3	-	-	15	100
Other	02	5	14	35	14	35	10	25%	40	100
Total	29	9	128	39,6	108	33.4	58	18%	323	100

As for the participant institutions of the research stood out universities, it is justified by the fact that most authors are doctors and masters; on the geographical and institutional origin predominated up the Southeast (34,4%), followed by the southern region (20,7%). It also observed that the North did not have work represented in the organs studied. If it considers that Brazil has a large socioeconomic and cultural diversity among its regions, the application of research results

from more economically developed centers is compromised in less favored regions and vice versa, due to technological resources and existing professional qualification. However, the uneven distribution of studies between regions of Brazil reveals a problem to be overcome by Brazilian graduate. It also observed a significant joint participation of national and foreign institutions from Portugal, Chile, Spain, Colombia, Peru and Mexico.

Table 2. Geographical Origin and institutional distribution of authors of articles published in the period from 2009 to 2013.

Brazilian Regions	Number of articles			
	Geographic origin		Institutional Origin	
	n°	%	n°	%
South	18	20,7	18	20,7
Southeast	30	34,4%	31	35,6%
Northeast	07	8%	07	8%
Midwest	04	4,6%	04	4,6%
Abroad	22	25,2%	27	31%
Total	87	100%	87	100%

As the results of this study, the majority of analyzed articles were published in the area of knowledge of health sciences (72,4%), specifically in nursing, then the area of

humanities (14,9%), and regarding the language, it predominated Portuguese (52,8%), followed by English (33,3%).

Table 3. Quantitative distribution of articles, language and knowledge of the articles published in the period from 2009 to 2013.

Language	Area of Knowledge				Total
	Health Science	Humanities	Linguistics, letters and arts	Applied Social Sciences	
Portuguese	36	05	01	04	46
English	21	04	-	04	29
Spanish	06	04	-	02	12
Total	63	13	01	10	87

Regarding the journals in which the articles were published in the period 2009-2013, it observes a wide variety of them and most were published in Public Health Journal (14,9%), and Latin American Nursing Journal (11,5%). Over the years there has been an increase of publications on the theme of validation; that is very good for the advancement of research.

In view of the search strategy for articles at SciELO library from DeCS descriptors related to validation tools, which constituted one of the main criteria for inclusion in this bibliometric study, we chose to distribute the descriptors mentioned in the analyzed articles. The most commonly cited are validation studies (41,1%), Reproducibility of results (25,5%) and Psychometrics (21,6%). Regarding the frequency of descriptors could observe that although most articles were written by nurses, the nursing descriptor is not mentioned in these articles, this is an important factor for the qualification of scientific publication and representativeness of nursing science in a way general.

In table 4 are the methodological outline the publications, methodological study represented (18,3%), followed by cross-sectional studies (17,3%). Most articles (54%) did not report the type of study. This represents a weakness in the polls, given the methodological rigor that we should follow in our research; the type of study is of fundamental importance to present in the material and method of research performed. Regarding the method, it was expected (67,8%) the quantitative, which attaches to the fact that validation usually be associated with the calculation of a coefficient, and (32,2%) quantitative and qualitative. The quantitative approach is characterized by the formulation of hypotheses, operational definitions of the variables in the quantification methods of data collection and use of information and statistical treatments. The qualitative approach differs in principle, the quantitative approach, since it does not employ statistical tools as the basis of the analysis process.¹⁰

Table 4. Distribution of published articles according to the outline and method of study.

Method Guidelines	Quantitative		Qualitative		Quanti-qualitative	
	n°	%	n°	%	n	%
Methodology	16	18,4	16	18,4	-	-
Transverse	15	17,3	15	17,3	-	-
Non reported	47	54	19	21,8	-	-
Other	9	10,3	9	10,3	28	32,2
Total		100	59	67,8	28	32,2

With respect to the types of references cited in published articles predominated journal articles (1441) cited, followed by books (565). In health, the dissemination of new knowledge occurs primarily through

periodic. There are specialized journals publishing original information from various types of studies in the form of scientific articles.¹¹

Table 5. Types of references cited in articles published in periodicals in the period from 2009 to 2013.

Number of Articles Reviewed	Types of References		Articles		Books and Chapters		Theses and dissertations		Manuals		Total	
	n°		n°	%	n°	%	n°	%	n°	%	n°	%
87			1441	70,1%	565	27,5	28	1,4%	21	1%	100	

Among the types of validity mentioned by the authors of the analyzed articles, highlight the content validity, with 40,89% (47), then the construct validity, with 26,97% (31) and clinical validity with 6,96% (8). Content

validity is based on analysis of the content of the items in terms of the number and scope of its items, the method is performed by a group of judges or experts with expertise in the content area. Issues related to the

classification of experts, their characterization and the way of location, not have consensus in the literature, although there are established criteria, it emphasizes specific aspects, requiring researchers to make adaptations.¹² Having construct validity refers to the demonstration that the instrument actually measures what it proposes to measure, not merely validate a test; its scope is much broader, focusing on its goal in validating the theory that supported the construction of instrument.¹³ While the clinical validation, there are several models for validation of nursing diagnoses, among which stands out the Model Fehring, including identified in the articles analyzed, refers to observation of the defining factors or characteristics in a clinical setting, where two researchers (expert) evaluate the data obtained through the responses patient.⁶ Each type of validity has steps and criteria to be followed to obtaining the desired validation.

CONCLUSION

The present research examined the scientific production in relation to studies about the subject published in the validation period of 2009-2013, in SciELO Brazil virtual library.

Despite publications have demonstrated apparent quantitative and qualitative growth in scientific production on the theme of validation is still small and concentrated in the southeastern region of Brazil. The study points to the development trend of research in nursing, as well as the significant involvement of graduate school in the publication of articles about the subject. It appears that the content validity and construct the most were employed in the work searched, indicating the increased use of validations construct and content.

There are necessary validation studies that generate new knowledge and contribute to the advancement of clinical practice and research in nursing.

It is hoped that this study may contribute, through the dissemination and guidance, on validation. Bibliometric research can be considered an important technological method for many areas of knowledge, by providing research indicators and identifying trends.

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