Original Article

Sensitive Creative Method in nursing: bibliometric study

Método Criativo Sensível na enfermagem: estudo bibliométrico

Método Creativo Sensible en enfermería: estudio bibliométrico

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Abstract

Objective: to investigate the scientific production in the area of nursing on the Sensitive Creative Method. **Method:** descriptive research, with a quantitative approach, of the bibliometric review type. **Results:** two hundred and ninety-three (293) documents were retrieved, of which 97 are present in the Latin American and Caribbean Health Sciences Literature database, 184 in the Medical Literature Analysis and Retrieval System Online, six in Scopus and six in the Web of Science. In short, publications in English (69.9%) and Portuguese (22.5%) stand out, as well as the availability in the format of scientific articles (96.6%) between 1967 and 2022. Nurse Education magazine owns 30 publications. The most used terms in the indexing of the searches were "Humans", "Creativity", "Methods", "Psychology" and "Teaching". The main authors in the area were Ivone Evangelista Cabral, Liliane Faria da Silva and Eliane Tatsch Neves. **Conclusion:** we identified an increase in the behavior of information about the sensitive creative method in nursing.
Descriptors: Creativity; Nursing; Nursing Research; Methods; Bibliometrics

Resumo

Objetivo: investigar a produção científica na área da enfermagem sobre o Método Criativo Sensível. **Método:** pesquisa descritiva, com abordagem quantitativa, do tipo revisão bibliométrica. **Resultados:** foram recuperados 293 documentos, dos quais 97 estão presentes na base de dados da Literatura Latino-Americana e do Caribe em Ciências da Saúde, 184 na *Medical Literature Analysis and Retrieval System Online*, seis na *Scopus* e seis na *Web of Science.* Em suma, destaca-se as publicações nos idiomas inglês (69,9%) e português (22,5%), bem como a disponibilidade no formato de artigos científicos (96,6%) entre os anos de 1967 a 2022. A revista *Nurse Education*

detém 30 publicações. Os termos mais utilizados na indexação das pesquisas foram "Humanos", "Criatividade", "Métodos", "Psicologia" e "Ensino". Os principais autores na área foram Ivone Evangelista Cabral, Liliane Faria da Silva e Eliane Tatsch Neves. **Conclusão:** identificou-se crescimento do comportamento das informações sobre o método criativo sensível na enfermagem.
Descritores: Criatividade; Enfermagem; Pesquisa em Enfermagem; Métodos; Bibliometria

Resumen

Objetivo: investigar la producción científica en el área de enfermería sobre el Método Creativo Sensible. **Método:** investigación descriptiva, con enfoque cuantitativo, del tipo revisión bibliométrica. **Resultados:** Se recuperaron 293 documentos, de los cuales 97 están presentes en la base de datos Literatura Latinoamericana y del Caribe en Ciencias de la Salud, 184 en el Sistema de Análisis y Recuperación de Literatura Médica en Línea, seis en Scopus y seis en Web of Science. En definitiva, destacan las publicaciones en inglés (69,9%) y portugués (22,5%), así como la disponibilidad en formato de artículos científicos (96,6%) entre los años 1967 a 2022. La revista Nurse Education cuenta con 30 publicaciones. Los términos más utilizados en las búsquedas de indexación fueron "Humanos", "Creatividad", "Métodos", "Psicología" y "Enseñanza". Las principales autoras del área fueron Ivone Evangelista Cabral, Liliane Faria da Silva y Eliane Tatsch Neves. **Conclusión:** se identificó crecimiento en el comportamiento de la información sobre el método creativo sensible en enfermería.
Descriptores: Creatividad; Enfermería; Investigación en Enfermería; Métodos; Bibliometría

Introduction

Over the years, the area of Nursing has encompassed several concepts, currently being recognized as a science established by the practice of care through the development of the relationship of nursing professionals with patients and/or clients. This area of knowledge implies different perspectives on how to apply knowledge, including technical assistance and handling, teaching, management and research.[1]

Within the research, there are several ways to obtain data, linked to the lines of quantitative and qualitative approaches. Quantitative research uses statistical and mathematical methods to quantify the process of collecting data and information. On the other hand, qualitative research is based on the subjective aspects of human experience and knowledge, with several methods of investigation and production of information without addressing contexts that need to be quantified.[2-3]

In the context of the qualitative approach, there is the Sensitive Creative Method (SCM), which consists of a technique of knowledge production based on the dialogical and problematizing conception of Paulo Freire, which is based on the social relations

and subjectivity of those involved in addition to the collectivity. In this premise, with regard to the methodological path and the production of information obtained through experiments and observation in the scientific process, the SCM allows the so-called "problematizing dialogue", which entails the collective construction of knowledge in a critical and reflective way.[4-5]

The use of SCM advocates a horizontal relationship between the subject-who is researching and the subject-researcher, since both parties are seen as producers of knowledge, with this relationship being guided by dialogue, sensitive listening and alterity. In this way, the tools provided within the method facilitate the exchange of experiences and knowledge between individuals in order to generate information, following five stages in its execution, namely: introduction, production, presentation, discussion and evaluation.[5-6]

On the other hand, bibliometrics emerges as a quantitative and statistical research method, and aims to measure the production and dissemination rates of scientific knowledge by identifying certain indicators, such as: year of publication, languages of publication, authors, journals, keywords, among others. In other words, it is a methodology that analyzes the scientific production related to the subject studied, quantifying the process of written communication.[7]

Bibliometrics is based on mathematical precepts through certain laws, which imply results regarding the trends and behaviors of information and are represented by Lotka's Law (1926), which aims to recognize the authors who work the most on the subject studied; Bradford's Law (1934) seeks to highlight the main journals with regard to the number of publications; and Zipf's Law (1949) deals with the most cited and relevant terms in the text of the documents.[8-9]

In the meantime, it is essential to know the scientific development of the SCM within Nursing, since it is a different methodology from the others, that is, non-mechanized, with collective construction at the heart of data collection, still based on sensitive listening, solidarity and dialogue through various group dynamics that favor the enrichment of nursing care practices and the health field.[5]

Therefore, this study is justified by the need to investigate the characteristics of scientific production involving the SCM through indicators used in bibliometric research,

expressed by the year of publication, types of documents, languages, journals, terms and authors, in order to present the scientific panorama of this method in the field of nursing.

The objective of this research was to investigate the scientific production in the area of nursing on the Sensitive Creative Method.

Method

This study is a descriptive research, with a quantitative approach, with a bibliometric analysis technique, investigating the following indicators: year of publication, types of documents, languages, journals, terms and authors. Data collection took place in November 2022.

Descriptive research is based on the in-depth description of the behavior involving the phenomena and/or people arranged in a given reality, without the need for intervention in it. In addition, the quantitative approach employs previously determined procedures, based on the statistical process of enumeration and measurement in the collection and analysis of data to deal with indicators present in research, which can emerge from both primary and secondary data.[2,10]
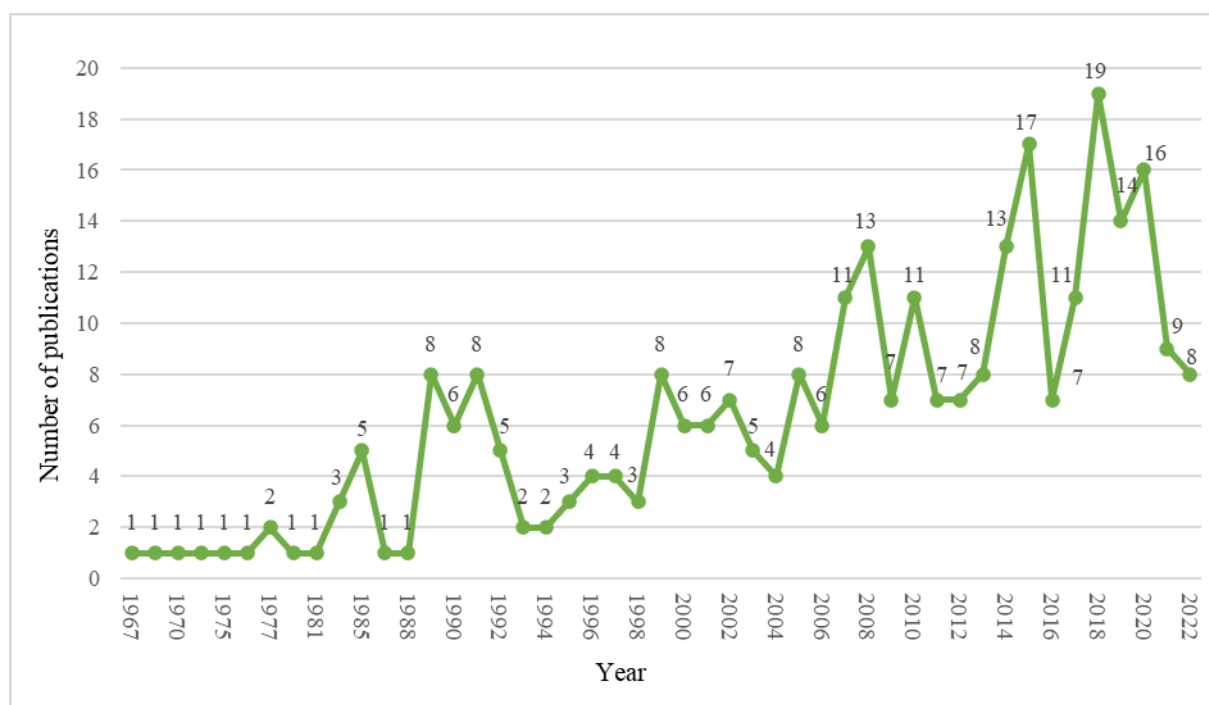
The research was carried out in the Latin American and Caribbean Health Sciences Literature (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE) databases, which are available in the Virtual Health Library (VHL). The Scopus and Web of Science databases were also used, which are available on the Journal Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES).

In this sense, the collection in the databases used the combination of the descriptors recognized in the Health Sciences Descriptors platform (DeCS), with handling of the boolean operators AND and OR. The search string was in Portuguese and English as follows: (("Método Criativo Sensível" OR "Sensitive Creative Method") AND (Enfermagem OR Nursing)). The analysis period consisted from 1967 (first publication involving the subject) to October 2022. In addition, as an inclusion criterion, the documents were adopted in the formats of articles, dissertations and theses. Microsoft Excel® software was used to analyze the indicators defined in this study.

Results

According to the results, 293 documents were recovered in the databases, 97 in LILACS, 184 in MEDLINE, six in Scopus and six in Web of Science. The first study involving the theme was published in 1967, with a high variability of publications over the years, with emphasis on the growth from 2007, which had 11 publications. In addition, from 2007 to November 2022, there were 178 published studies, representing the percentage of 60.7%, with peak production in 2018 (Graph 1).

Graph 1 – Quantitative of publications per year on the Sensitive Creative Method in nursing research.

Regarding the frequency of languages, there was a decreasing conception in: English (205), Portuguese (66), Spanish (4), Danish (4), French (4), Chinese (3), Japanese (3), English and Portuguese (2), German (1) and Czech (1). Regarding the types of documents, they were quantified and classified into: articles (283), theses (9) and monographs (1).

Based on the assumption of Bradford's Law, in the analysis of the 293 publications based on the journals in which they were published, it was observed that they were disseminated in 161 different journals. Thus, we have the applicability of

Bradford's Law through zoning from the frequency of production of the journals, in which each zone constitutes 1/3 and/or about 33.3% of the number of publications,[11-12] being exposed in Table 1 to the 1st zone with 6 journals, while the 2nd and 3rd have 21 and 134, respectively.

Table 1 - Applicability of Bradford's Law from the number of publications, Belém, Pará, Brazil, 2023.

Zones	Number of Journals	Number of publications	%
1st Zone	6	102	34.8
2nd Zone	21	96	32.7
3rd Zone	134	95	32.5
Total	161	293	100

In this context, the six journals most used to publish the documents were listed, which represent the percentage of publications arranged in the 1st zone, with a number of 102 documents and/or a percentage of 34.8%. In a decreasing way, based on the frequency of documents, these are: Nurse Education (30), Journal of Nursing Education (18), Text and Context Nursing (15), Brazilian Nursing Magazine (14), Nursing Magazine UERJ (13) and Nurse Education Today (12).

In addition, in order to confirm that the journals present in the nucleus are the ones that publish the most about the SCM, the formula of the Bradford multiplier was applied, $k=(1.781\times)^{1/P}$, in which Y_m corresponds to the maximum production, while P confers the number of zones, with the conception of the following mathematical expression: $k=(1.781\times30)^{1/3} = 6.4$.[12]

With regard to Zipf's Law,[13] it presents the zoning of words, based on the frequency of words present in each zone. In this context, there is the relevant zone as the one characterized by the terms that are most used for the indexing of studies, while the zone of interest portrays the words with intermediate appearances and, finally, the noise zone denotes the words used sporadically.[12]

The mathematical principle addressed in the research "Bibliometric study on pedagogical practice in the training of nurses in the context of MERCOSUR"[12] portrays the following formula: √TP = FS √FS = SS, in which "TP" comprises all terms; "FS" means

the first sphere, called the Intermediate Zone; "SS" constitutes the second sphere, designated as the Relevant Zone. It should be noted that the Noise Zone is not signaled in the formula, being recognized as the remaining terms when the first sphere and second sphere are subtracted from the total terms.

From the applicability of said mathematical principle, the square root of the total of 660 different terms is calculated, having 25.69 terms as a result of the first sphere, while the square root of this succeeds 5.06 terms in the second sphere. Therefore, there are 629.25 words characterized as noises.

In this study, the total of 660 terms had the frequency of 3,710 times in which they were used, 949 times in the relevant zone, 1,122 in the intermediate zone and 1,639 in the noise zone. Thus, the terms expressed as the most relevant in the thematic axis of the SCM in nursing were listed in a decreasing way, in the following terms: Human (258), Creativity (202), Methods (184), Psychology (153) and Teaching (153).

As far as Lotka's Law is concerned,[14] it analyzes the dissemination of the authors' scientific production. When analyzing the 293 documents, it was observed the existence of 644 different authors responsible for the production of scientific knowledge interconnected to the theme in vogue in this work. The total number of authors was linked to a frequency of authorship of 771, based on the Paretto diagram,[15] which subsidizes the 20/80 principle, in which 80% of the causes are related to 20% of those held liable. 20% of the authors correspond to approximately 129, being responsible for the frequency of authorship of 256 and/or percentage of 33.2%. Otherwise, 515 authors correspond to 515 authors, with a percentile of 66.8%.

From the analysis of the frequency of authorships, it was possible to establish the prominence of a portion of authors who have the highest production index, being presented in Table 2 the list of the 10 most productive authors within the thematic area worked, which comprise 1.6% of the total of these, as well as being present in 80 documents, with a percentage of 27.3% of the productions. Table 2 displays the name of the authors and frequency of documents.

Table 2 - List of the 10 most productive authors in the area of the Sensitive Creative Method in nursing research, Belém, Pará, Brazil, 2023.

Order	Author	Frequency of

		Documents
01	Ivone Evangelista Cabral	15
02	Liliane Faria da Silva	13
03	Eliane Tatsch Neves	10
04	Juliana Rezende Montenegro Medeiros de Moraes	8
05	Maria da Graça Corso da Motta	7
06	Hsing-Yuan Liu	6
07	Andressa da Silveira	6
08	Fernanda Garcia Bezerra Góes	6
09	Neide Aparecida Titonelli Alvim	5
10	Antônio Marcos Tosoli Gomes	4

Discussion

Based on the results presented in this research, it is noted that this theme has shown growth in nursing research over the years, however, with high variability in the number of publications, with significant peaks in 1985, 1989, 1991, 1999, 2005, 2008, 2014, 2015 and 2018, as observed in Graph 1. In addition, it is shown that, from 1999, there was an increase in the numbers related to publications, being an activity that denotes progress in the area of scientific research, which contributes to the enrichment of the theoretical and practical framework. In this sense, scientific production in this area influences the scientific, technological and artistic quality of professional knowledge and thus qualifies the service provided.[16]

Still in relation to the increase in scientific research in the context of nursing, in Brazil, these data may be related to the implementation of the curricular guidelines of its undergraduate courses, in 2001, which reshaped pedagogical practices within its teaching, seeking to train professionals with critical and reflective thinking, in addition to prioritizing the construction of knowledge through evidence-based practices.[16-17]

The investigation of the indicators referring to the types of documents expressed that approximately 96.6% of the publications were available in the format of scientific articles, while 3.1% were theses of PhD and 0.3% were monographs. Furthermore, as for the languages of the publications, there was a significant dissemination of publications in English, which presented around 69.9%, followed by Portuguese with 22.5%. That said, we note the notoriety of publications in the English language, a fact corroborated by the reflections brought in the study entitled "The role of the English language in academic-scientific publication: theoretical reflections and the case of Brazilian online

writing courses",[18] with English being an element of impact on the growth of publications and circulation of knowledge, in addition to composing the evaluation standards of journals and academic programs.

The phenomenon of the internationalization of scientific research, especially in the area of nursing, is configured as a current practice of approximation between students, teachers and researchers, exemplified by the collaboration of different authors in publications of documents in international journals and/or in the English language, international collaboration of co-authorship with authors from different countries, among others.[19]

The applicability of Bradford's Law allowed us to evaluate the productivity of journals with regard to the number of publications, thus estimating their relevance within the theme of SCM in nursing research. Thus, the journals Nurse Education, Journal of Nursing Education, Text and Context Nursing, Brazilian Journal of Nursing, UERJ Nursing Magazine and Nurse Education Today carry a large number of studies on this topic, that is, they make up the core of scientific production and, theoretically, are seen as the most qualified and relevant in this area.[20]

Otherwise, from the zoning of terms postulated by Zipf's Law, which characterizes the frequency and distribution of words present in a given textual material, as well as making it possible to map and categorize the occurrence of these words through ranking ordering, it was possible to identify five terms considered more relevant within the thematic axis worked on in this research.[20-21]

In addition, regarding the ranking of terms evidenced in this study, it appears that the frequency of use of these words is related to the central issue of this study, with the keywords "Humans", "Creativity", "Methods", "Psychology" and "Teaching", which were most used for indexing documents in databases. Thus, it is understood that the use of this law suggests that there are words and terminologies within a thematic field that have a close relationship with the information provided, as well as those that have little or medium relationship.[20-21]

Regarding the applicability of Lotka's Law combined with the Pareto Diagram, the measurement of the authors' scientific productivity standard was determined, based on the fact that a small number of authors are responsible for many productions and,

therefore, considered references within the theme addressed, while many authors have a limited number of productions, having less prestige in the area.[15,22]

The limitations of this study include the use of search engines, which are related to the strategy employed, as well as the use of Boolean descriptors and operators that led to the retrieval of information in databases, directly influencing the quantity of available data related to the research object.

As contributions to nursing, it is essential to encourage the increase of scientific production in the area that has in its essence the conception of data with the use of the SCM, which integrates unique forms of data production, based mainly on creativity, dialogue, subjectivity, reflection and exchange of experiences. The SCM contributes to the construction, assessment and reassessment of knowledge of both the subject who is researching and the subject-researcher, seeking to reflect on the enrichment of knowledge and, consequently, greatly influence evidence-based practices.

Conclusion

This research allowed us to describe the behavior of scientific production related to the SCM in the context of nursing from the bibliometric analysis. It was possible to observe the variation of the 293 publications over time, starting in 1967, and these studies were predominantly published in English and presented, in general, in the form of scientific articles.

Based on the application of bibliometric laws, Bradford's Law made it possible to recognize that six journals make up the center of choice for researchers to publish research that addresses the SCM and, thus, they emerge as the most important in the area, especially the Nursing Education journal.

In addition, the research showed through Zipf's Law the ranking of terms most used in textual materials, with the words "Humans", "Creativity", "Methods", "Psychology" and "Teaching", which showed a close association with the object of the research.

Lotka's Law enabled the identification of the productivity of the authors, listing Ivone Evangelista Cabral, Liliane Faria da Silva and Eliane Tatsch Neves with higher

publication rates and, therefore, holders of high scientific prestige in this content, confirming the principle established by this law that a large portion of the productions are carried out by few authors.

Finally, it is noted that this research expressed contributions to the SCM within nursing research, since the study showed the growth of publications over the years and, consequently, of metric indicators. On the other hand, bibliometrics enabled the investigation and description of the written communication process, being a way of recognizing the behavior of information and instigating the evolution of knowledge.

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