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Bibliometric study on the work of nursing in the context of ergology

Estudo bibliométrico sobre o trabalho da enfermagem no âmbito da ergologia

Estudio bibliométrico sobre el trabajo de enfermería en el campo de la ergología

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Abstract: This article aims to reveal the number of articles published on the subject of Nursing and Ergology, through bibliometric analysis, based on two databases, Scopus and Web of Science. The VOSviewer® program was used to analyze the results, using the parameters Network visualization, Overlay visualization and Density visualization. Thus, it was possible to find 27 authors in 13 journals, on the criteria Nursing and Ergology, being included only those who reflected the proposed theme. It was concluded that, in face of the scientific evidence, it is observed that the number of publications that address the theme is still incipient.

Keywords: Ergology. Work activity. Nursing.

Resumo: Este artigo tem por objetivo revelar o quantitativo de artigos publicados sobre a temática Enfermagem e a Ergologia, por meio da análise bibliométrica, baseando-se em duas Bases de Dados, a Scopus e Web of Science. Foi utilizado o programa VOSviewer® para análise dos resultados, utilizando os parâmetros *Network visualization*, *Overlay visualization* e *Density visualization*. Assim, foi possível encontrar 27 autores em 13 revistas, sobre os critérios Nursing e Ergology, sendo inclusos apenas aqueles que refletiram a temática proposta. Concluiu-se que, diante das evidências científicas, ainda é incipiente o número de publicações que abordam a temática.

Palavras-chave: Ergologia. Atividade de trabalho. Enfermagem.

Resumen: Este artículo tiene como objetivo revelar la cantidad de artículos publicados sobre el tema de Enfermería y Ergología, a través del análisis bibliométrico, con base en dos Bases de Datos, Scopus y Web of Science. Para el análisis de los resultados se utilizó el programa VOSviewer®, utilizando los parámetros *Network visualization*, *Overlay visualization* y *Density visualization*. Así, fue posible encontrar 27 autores en 13 revistas, sobre los criterios de Enfermería y Ergología, incluyendo sólo aquellos que reflejaban la temática propuesta. Se concluyó que, frente a la evidencia científica, se observa que el número de publicaciones que abordan el tema aún es incipiente.

Palabras clave: Ergología. Actividad de trabajo. Enfermería.

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Introduction

Until the mid-twentieth century, the action employed by man to work was, most of the time, seen only as a mechanical process, in which the worker was not allowed to critically opine about what he was doing inside a company, and thus, he only executed what was proposed (Couto & Gutierrez, 2021).

From this perspective, professor and philosopher Yves Schwartz deepened and began studies in France on the activity of work and its connection with man/worker, calling it the ergology of work. The author points out that, when considering the influence of work at all points in a human being's life, it is of utmost importance to address the subjective aspects of workers regarding their knowledge and values as primordial elements of individual and collective reconstruction of and at work (Schwartz & Durrive, 2010).

Ergology comes to show the actions that the worker does to guarantee his job and, also, to evidence that work activity is not merely action, but also the permanent summoning of the worker's subjectivity. Thus, Ergology proposes an approach in the micro dimension of work to understand the real activity of those who work. In other points, Ergology is also to be able to see the complexity of work in what is actually happening in the life of the main protagonist, the worker, making it reveal the knowledge and values that emanate from/in the gestures in the human doing, surfacing in the invisibility of work, in the most infinitesimal of the activity (Trinquet, 2010; Souza, 2021).

Pinno et al. (2019) address that, from an ergological perspective, living is a dramatic use of self that constantly demands negotiation by the worker and the obligation to do in the here and now, in an environment filled with norms, temporarily established.

However, to ensure the control and safety of all processes, the worker is presented with antecedent norms, which embrace heterodetermined execution restrictions, because there is in them something that can be identified as the expression of a scientific dogmatism supported by a social power. The complex character of antecedent norms indicates values - which do not refer only to a monetary dimension, but rather to elements of the common good, which are resized in organizations, work environments, and in their relationship with the external environment - in which they are also the subject of debates, conflicts, and political arbitration. In light of this, the ergological approach synthesizes that every human activity of work is "a web of permanent renegotiations of these norms" (Schwartz, 2016, p. 253). However, the human being cannot live by laws and norms alone, it is impossible and unlivable (Canguilhem, 2009).

Thus, man's action at work will always couple a debate of these norms and the attempt to make choices or renegotiations, which are not always conscious of or supported by personal values. So, renormalizing takes place in the professional's attempt to update/personalize the environment based on their personal values and knowledge, thus living in a constant drama of the use of self (Schwartz, 2014). Both technical and managerial activities, are intertwined in the use of each professional's values, prior knowledge and experiences (Bonfada et al., 2021).

In other words, the activity of work is the real and, as such, it is only realized through the real and adequate means for its execution. However, between the prescribed work and the actual work there are multiple variabilities in relation to the work process that cannot be briefly anticipated. Soon, this space between the prescribed work and the actually performed work is inscribed the reality of professional human activities (Ribeiro et al., 2019).

Given these assumptions, to work is also to be faced with choices, because one day of work is never the same as another and, within that, these choices are made from the unique values impregnated in the worker (Calvo, 2020; Neder et al., 2021).

With the assumption that the environment is unfaithful, it implies the worker to manage the infidelities imposed by and make choices according to their lived experiences, resulting in a risk-taker to ensure the functioning of their activity (Oliveira, 2018), as well as the management of themselves and the environment. In view of this, the conduct of resingularizing is necessary and, in view of this, it is conjugated to taking the risk to have the management of the work on a daily basis, because the emptiness of norms and the deficiency of guidelines leads the professional to take risks, to make that means, his (Calvo, 2020).

Nursing, as an academic discipline, is governed by rules, regulations, ordinances, and procedures. However, as a service sector, in which it articulates simultaneously with production and consumption, it still needs to face the environment where it is inserted, in order to meet such production demand. The professional must develop skills based on subjectivity/individuality in the face of norms and prescriptions.

However, it is worth pointing out that the activities in the health area have their own characteristics, quite different from the industrial characteristics. The basis of inputs and work processes are dynamic and still allow an exchange, often interpersonal, between the user who provides subjective data to the service provider (active co-participation in the process), which does not happen in industry (Souza, 2011).

From the ergological point of view, the nursing profession has skills and knowledge that go beyond the work prescribed there, because considering the history of nursing and the dynamic place where they work (hospitals, clinics, health clinics, etc.), they refer to the use of skills in the provision of care that go beyond techniques, but are not always presented as the content of the profession.) refer to the use of skills in the provision of care that go beyond techniques, however, are not always presented as the content of the profession. This invisibility of nurses' work is often restricted and little talked about among their peers (Bonfada et al., 2021).

Given the above, this research has the following problem to be answered: what is the quantity of studies on ergology and nursing available in the Databases and if they are able to become a reference in the scientific environment?

This article aims to reveal the number of articles published on the subject of Nursing and Ergology, through bibliometric analysis, based on two important databases worldwide, *Scopus* and *Web of Science*, and to present the relevance of the subject in the proposed context.

In this research, the main years of publications of articles on ergology are punctuated, as well as their main scientific journals, the authors involved with greater frequency in the publications and the areas of knowledge that the articles fall into.

Methodology

Bibliometrics has been used in several areas of knowledge as a methodology. Its principle is to evaluate and analyze the scientific academic productions on several themes, in order to generate a quantitative study of the publications and its main objective is the development of increasingly reliable indicators (Araújo, 2006).

The importance of bibliometric studies is supported by the need to know and evaluate the productivity and research quality of actors (authors/researchers), allowing the detection of dispersion models and patterns of citation behavior in their scientific production (Quevedo-Silva et al., 2016).

This article is structured to use as a search source two databases, *Scopus and Web of Science*. Although there are other specific databases, we chose these databases because they are internationally recognized and because of their adherence to the subject matter. After defining the databases, the key words used (nursing and ergology) were defined. The association of these words was chosen in order to provide specific feedback regarding the study proposal.

The *Scopus* database was chosen because it is responsible for indexing abstracts and citations from peer-reviewed literature (books, journals, among others) from around the world in several thematic areas (interdisciplinary) on scientific research productions, scientific journals, among others, from all over the world, in several thematic areas (interdisciplinary), about scientific research productions, besides providing solutions to monitor and analyze such processes. In addition, as a search result, it enables the use of the parameters necessary for the use of the *VOSviewer*© program for the development of bibliometrics.

Web of Science was selected because it contains registered citations in several areas of scientific knowledge, in different countries around the world, as well as thousands of institutions (educational, governmental and corporate) in its portfolio. In this way, the research linked to this platform is composed of high-quality information and reliability in the analyzed data in order to generate future research strategies. As a search result, it enables the use of the parameters necessary for the use of the *VOSviewer*© program, in its version 1.6.18, for the development of bibliometry.

Given this, the criteria used in the two Databases, first in *Scopus* and then in *Web of Science*, were:

a) Words used to search for articles: *Nursing and Ergology*. Searched both in the titles and in their *abstracts*. The English language descriptors were used due to the search requirements of

the databases, as well as the Portuguese language terms, which resulted in a significant restriction of search results;

b) Regarding the temporal period, the field *all years* was flagged, that is, no limitation was applied, allowing the visualization of the first publication made on the theme, in order to make an exhaustive search on the approached theme;

c) The inclusion criteria used were previously established to obtain results pertinent to the objective of this study. The exclusion criteria were duplicate articles, articles without abstracts, and contents that were not fully related to the theme. For this exclusion, the title and abstract of the article were read beforehand;

d) Since each database had to be analyzed individually, it was necessary to use the two keywords and the Boolean descriptor *AND*. No article filters were added to remove duplicates, this was confirmed by reading the titles after search results in the databases;

e) The data obtained from the databases were exported in text format, then processed in the *Microsoft Excel®* program. Then the *VOSviewer©* program was used to analyze them. As analysis criteria, the *Network visualization* was used, which aims to establish the collaboration network between the authors of the articles that reflect the theme addressed. Afterwards, we proceeded to the *Overlay visualization* analysis, which by means of the collaboration network, establishes the related score levels, ranging from low (blue), medium (green), and high (red). At the end, *Density visualization* was performed. There are two variants of *Density visualization*. In the first, density visualization is discussed, followed by *cluster* density visualization. In the item density view, items are represented by their labels in a similar way as in the network view and the overlay view. Each point in the item density view has a color that indicates the density of the items in that point. By default, the colors range from blue to green and red. The greater the number of items near a point and the higher the weights of the items, the closer the color of the point is to red. Conversely, the smaller the number of items near a point and the smaller the weights of neighboring items, the closer the color of the point is to blue (Van Eck & Waltman, 2018).

f) The data processing was carried out with regard to the authors' names, the intention of comparing their publication positions, the educational institution that had the interest for the research, how many articles published by the authors, the year of publication, the theoretical reference cited, and which journals they published in. This data is presented below.

Results and Discussion

Work in the context of health is considered essential work and a basic attribute for human life. This work, considered essential for health professionals, has as its objective the individual and the groups of patients within the health/illness context, exposed or not to risks, those who need curative measures, in order to preserve health and prevent diseases (Pires, 2000; Borges & Trindade, 2021).

In parallel, the nursing profession acts in several dimensions of health: in assistance, in health promotion, and in the prevention of diseases in collective health, and is also active in the phases of life: from birth to death. However, since its end product is the patient, nursing care tends to deal with a void of standards. Trying to manage the norms and also to deal with the patient's subjectivity and the variability of the environment where he/she is inserted forces this professional to manage, to leave his/her mark as a living person, to use his/her knowledge and internal values to try to control the environment, to make it his/her own.

In view of this, it is fundamental to bring out the knowledge impregnated in the workers and confront certain processes of the worker's activities that lead to production wear and consequently to loss of health. Trying to approximate the norms to the reality presented is of utmost importance to understand the real work activity. It is then noted the diversity of details and the importance of studying the nursing activity in the micro view of work.

To arrive at the data that motivated us to write this article, we first had to access the CAPES Periodicals Portal page of the Ministry of Education. Then a search was performed by the university where the authors are registered in the field - CAFE Access (Federated Academic Community). Once *logged in* to access the platform, we searched the Collection List and entered the name *Scopus* and then the *Web of Science* main collection. Performed the steps separately, this allowed us to redirect to the official page of each requested Database.

Using the search strategy defined for this study, 9 (nine) articles were found in the *Scopus* database. Then, using the same strategy for the Web of Science database, 7 (seven) articles were found. After reading the titles and abstracts, no duplicate articles were found, and the 16 (sixteen) articles selected were read in their entirety.

After reading and refining the information contained in the scope of the articles, 3 (three) articles, from a total of 16 (sixteen) read in full, were excluded for not containing the necessary and substantiated information for the development of the theme addressed.

As a final result, thirteen (13) articles were obtained in full adherence with the theme of the relationship between nursing and ergology. Thus, following the necessary procedures for the VOSviewer© program, the articles were imported in the format corresponding to the specification for the data analysis, and 2 (two) files corresponding to each database were saved for their organization.

Using the VOSviewer© program interface, it was possible to select the *create* field and then, *Create a map based on bibliographic data*. Then the field that supports exported files in the chosen databases, *Read data from bibliographic databases files*, was selected. So the files were selected in the relevant tabs of the program.

The results of the program's analysis, through *Network visualization*, made it possible to determine the following selections: by coauthorship, by occurrence, by citations, by referenced bibliographies, and co-citations. Once the mode by citations was chosen, the following choices defined by the program followed: by Authors, or by Organizations and/or by Countries. The field

that addresses the number of authors per document was selected and, as a result of the analysis, the number of 27 authors referenced in the 13 selected articles was presented.

Thus, the approach on this theme is opportune and the bibliometric analysis made it possible to visualize, from the selections of the data performed, the number of authors with an interest in the proposed theme, the main educational institutions involved, the number of publications in the cited databases and, consequently, to observe the need to deepen the relations in line with the proposed subject and the sectorial needs through scientific research. As a consequence, it was possible to observe the need to deepen the relations in consonance with the subject proposed with the sectorial needs by means of scientific research.

Researching each author individually, through the *Overlay Visualization* process, it was observed that they have master's and doctoral degrees in their specific areas of work and in which they sought theoretical and methodological knowledge of ergology to demonstrate the work of nurses in various environments and situations within health institutions.

Considering the research method cited here, it is pointed out that from the 13 journals found, we can first separate and organize them by: authors' names, year of publication in order to better express and understand the various themes that ergology and nursing have addressed (Chart 1).

Chart 1

Authors and their publications in the databases.

NO.	Author	Title of the published article
1	Bertoncini et al. (2011)	Working conditions and renormalizations in the activities of family health nurses
2	Fontana & Lautert (2013)	The nursing work situation and occupational risks from an ergological perspective
3	Santos & Camponogara (2014)	A look at nursing work and ergology
4	Mendes & Cunha (2018)	<i>La opacidad del trabajo de enfermería y las configuraciones del riesgo</i>
5	Pinno et al. (2019)	The drama of the "use of self" in the work of the nursing team in a surgical clinic
6	Ribeiro et al. (2019)	Theoretical and methodological contributions of ergology to research on nursing work
7	Calvo et al. (2020)	Risk management and the complexity of the right to refuse dangerous work in the context of hospital care: Preliminary issues.
8	Frantz et al. (2020)	Nurses' work and competence in hemotherapy services: an ergological approach
9	Bonfada et al. (2021)	The use of self-body in nurses work in hospital care: an ergology approach
10	Frantz & Vargas (2021)	Renormalizing the work of nurses in hemotherapy: Between the prescribed and the real
11	Vocci et al. (2021)	Vulnerabilities of nurses in intensive care unit: integrative review
12	Voges (2021)	"An on-call that broke my heart": nursing work from dialogical perspectives in times of covid-19
13	Calvo et al. (2022)	The complexity and contradictions of the right to refuse to do hazardous work in the surgical center of a hospital

Source: the authors.

Given the limitation of registered journals on the ergology/nursing theme in the explored databases, such research is expressively qualitative, focusing on verbalizations and observations, mostly in the professionals' field of work.

It is perceived that most researchers have an eye toward the organization of nursing work and in its management of patient care. It is also worth mentioning that these scholars are not only undergraduate or graduate nurses, but people concerned about the health of nurses and interested in understanding and solving demands regarding the work activity, life, and individual and collective knowledge of nursing, in order to circumvent the various demands, variabilities, and difficulties related to the profession.

According to the studies, it was possible to observe that nursing work is structured on consistent bases to support its practice, anchored in the historical and social knowledge of medicine and nursing itself. Thus, when developing their practice, nurses have the theoretical and scientific basis to make concise choices, transgress norms and remodel their behaviors, which has demonstrated particularities in their work, aiming to overcome the gaps between the prescribed work and the real work (Santos & Camponogara, 2014).

The various types of scientific research cited here are aimed at producing knowledge in the humanities and health sciences. Certainly, adopting such knowledge is wisely opportune to stimulate the readers' understanding and, also, to promote the improvement of the quality of life and health of the people involved.

From the detailing of the possibilities that the bibliometric study allows, 27 authors were quantified who proposed to work and publish the results and analyses of their research in adherence with the Nursing theme, and it was also possible to verify that some of them worked in more than one journal, as can be seen in Table 1.

Table 1

Authors and total publications in the databases

N.º	Author	N.º of publications
1	Vargas, M.A.O.	3
2	Camponogara, S.	3
3	Cunha, D.M.	3
4	Mendes, D.P.	3
5	Pires, D.E.P.	3
6	Pinno, C.	2
7	Ribeiro, G.	2
8	Frantz, S.R.S.	2
9	Calvo, D.S.C.	2
10	Scherer, M.D.A.	2
11	Ferreira, J.A.	2
12	Brito, M.J.M.	1

13	Beck, C.L.	1
14	Borgato, M.H.	1
15	Fontana, R.T.	1
16	Lautert, L.	1
17	Mello, T.S.	1
18	Silva, R.M.	1
19	Voges, M.C.N.	1
20	Gallo, I.G.	1
21	Fontes, C.M.B.	1
22	Vocci, M.C.	1
23	Bonfada, J.S.	1
24	Spiri, W.C.	1
25	Bertoncini, J.H.	1
26	Santos, T.M.	1
27	Bitencourt, J.V.O.V.	1

Source: the authors.

Nursing practice will always be linked to social functions among the health and well-being of individuals. As a social practice, nursing is inserted in the environment of work and health care and, thus, suffers historical, social, economic and political influences. It is considered an activity that meets the needs of the human being regarding the health and disease process (Martins, 2013).

Given the challenges faced by nursing in the management of care and still be guided as a social being in the service sector where the end product is immaterial. It is also worth mentioning how the profession is conditioned by historical and social influences that plague the work process as a social practice.

Social responsibility is present in various sectors, but it is in universities that one can see the concern in providing knowledge and ensuring good results in the end, such as the end of social inequalities and ensuring an increasingly egalitarian and fair world. Thus, it is through knowledge that such institutions have guaranteed their visibility and, consequently, through extension projects, are able to pass it on to local and regional communities and transform them into co-participants in a more productive and participative society.

However, in view of the complexity that exists in Brazil both in the area of education and research, as well as in the degree of existing social problems, universities are a key player in facing such real problems.

In the context of this study, the real problem is the lack of knowledge about the invisibility of nurses' work by managers during the workday. Thus, it becomes opportune among those surveyed the concern and urgency to give such visibility to the activities of these professionals, to show the values inserted there, and also the risks they face daily in the face of health problems and social vulnerabilities that each region of the country presents.

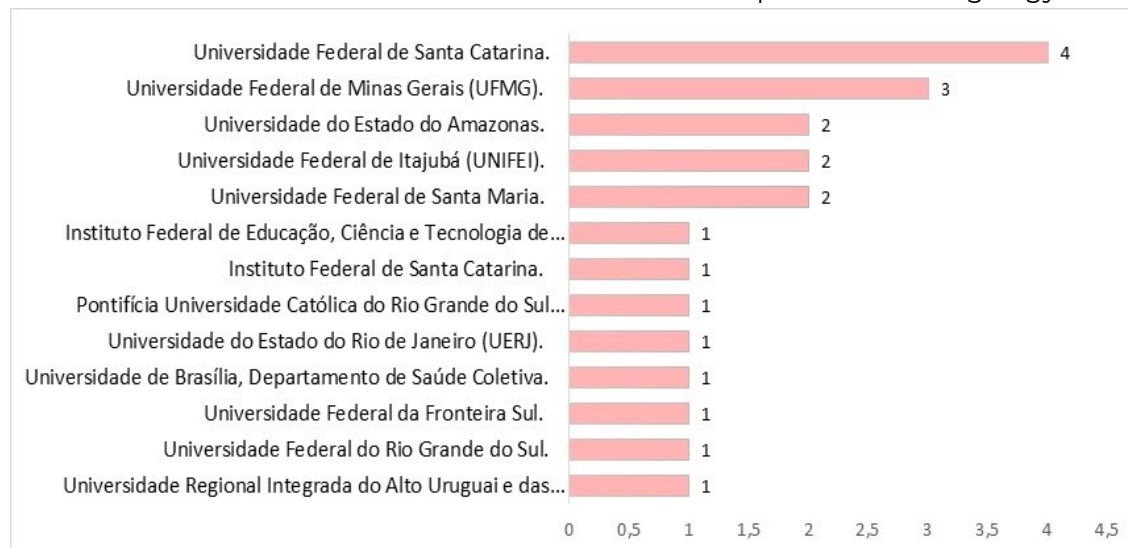
Thus, it was possible to list the main Teaching and Research Universities that allowed themselves to study the theme ergology and nursing. Thus, it was observed that twenty-seven authors presented in the databases are mostly from Federal Universities and a minority from Private Universities.

The main study scenarios were with professionals who work in hospitals, followed by those who work in blood centers. Systematic Reviews of Literature on the vulnerabilities of nursing work and ergological perspectives on the profession were also visualized.

Through the methodology, it was also presented as results that the institutions with the largest number of theses and dissertations, with a focus on subjectivity in the nursing work, are in the Southern region of Brazil, where the State of Santa Catarina had 4 (four) publications, followed by the Southeastern region and, lastly, the Central region of the country with one publication (Graphic 1).

Graphic 1

Main educational institutions to which the authors who published on ergology and nursing are affiliated



Source: the authors.

In an attempt to understand and relate the nursing profession with the objectives of this work and ergology, it was shown how the discipline is dominated by academic knowledge, ordinances, resolutions, etc. However, faced with making quick decisions and ensuring patient safety, such a professional begins to renormalize (remake the environment as their own, including work, from their values and life experiences) and consequently try to control the variabilities of the environment (Pinno et al., 2019). However, there will always be the use of self to improve the workday and thus it is possible to show actions that are often invisible in the field of professionals.

Thus, of the 27 authors interested in understanding this drama, they relied on 133 files as theoretical references, among them: journals, scientific notebooks, books, resolutions, and regulations. However, all scientific work produced in universities and colleges must be anchored

in published theoretical-methodological references that discuss the theme the author wishes to establish. It aims to ground and give consistency to the whole study and help answer research questions and problems to support its arguments.

Under the theme ergology, the book *Work and Ergology: conversations about human activity*, by authors Yves Schwartz and Louis Durrive, from 2010, was the most cited in the theoretical-methodological references by the papers found.

However, there are other sources of research that were cited only once, not fitting to put all due to the amount of material studied. Thus, it is seen that there are Brazilian papers posted in national and international journals relating ergology and nursing in the scientific environment and the concern of researchers on the subject (Table 2).

Table 2

Main sources of research used

Name of the Research Source	N.º of citations
Book: <i>Work and Ergology: Conversations on Human Activity</i>	10
Book: <i>Ergonomics</i>	9
Brazilian Journal of Nursing	7
Latin American Journal of Nursing	7
Text & Context Nursing	7
Work, Education and Health	7
Work & Education	5
<i>Labyrinths of work: Interrogations and views on living work</i>	4
<i>Les Competences en Ergonomie</i>	3
Journal of Nursing from Midwestern Minas Gerais State	3
Work	3
National Health Surveillance Agency	2
Public Health Textbooks	2
Book: <i>Work Clinics: new perspectives for understanding work today</i>	2
Book: <i>Understanding work to transform it: the practice of ergonomics</i>	2
Science & Collective Health Journal	2
Northeast Nursing Network Journal	2
Laboreal Journal	2
Letras de Hoje Journal	2
Public Health Journal	2
Book: <i>Ergonomics in Search of its Principles: Epistemological Debates</i>	1
Book: <i>Intelligence at Work: Selected Texts of Ergonomics</i>	1
Ergonomic Action Journal	1
Acta Paulista Journal of Nursing	1
USP's School of Nursing Journal	1
UFPE Nursing Journal	1
<i>Educação & Sociedade Journal</i>	1

Source: the authors.

The results revealed show the authors' interest in research on the nursing work in the context of the invisible and visible of the activity, making a dramatic for measuring the continuities, the transfers of communication of informal feelings between those involved, the paths used to get around the moment exposed to them. In this way, every work has a mix of visible and invisible actions (Schwartz, 2011).

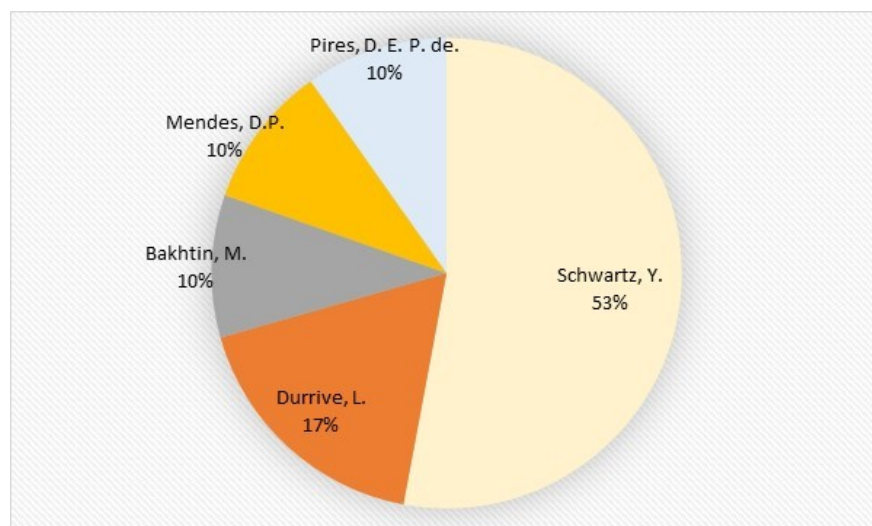
Further exploring the program's resources for compiling data by subject and collaborating for the theoretical referential, the citation analyses help in the verification of the main authors with previously published scientific works. In this way, these thinkers help the researcher to guide his research and contribute to problem solving. The more referenced the authors are, the greater their viability and importance in the academic environment.

The most used bibliographic reference was Yves Schwartz, with 53% of citations, followed by Louis Durrive with 17%. Other authors cited in the research and not less important, covered 17% and 10% of the total studies, thus demonstrating that the new generation is gaining space in scientific research related to labor ergology and, thus, being placed as reliable researchers on the subject.

However, to consider only this form of citation analysis is to have a macro view of the situation, and this theoretical foundation is of utmost importance for any form of scientific research, because it is through this that the study has credibility in the area of study and thus be supported by people who are dedicated to and live the ergology of work (Graphic 2).

Graphic 2

Most referenced authors in the searches found in the databases.



Source: the authors.

By the concern to give visibility in the renormatizations that the professional exercises, facing the environment where it is inserted, ergology scholars argue that the solution to the risks that the professional is exposed during his working day, means that it is not enough just to present improvement in the standards of protection to the worker and / or improve organizational forms

to improve the ability to manage the work in its course, but adapt the changes that are constant in the work process (Oliveira, 2018).

In this approach, it is shown that the proposed theme manages to fit into several journals, notebooks and other scientific archives in the field of interdisciplinarity, as well as can be addressed not only in Brazil, but also in other countries where worker health is put in evidence

Scientific journals or scientific periodicals are intended to contribute to the growth and development of science, to meet the needs of the academic public that seeks information, and also to enable the monitoring of scientific events, which arise in a particular region, in a continuous and updated way.

However, when reading some journals published by the 27 researchers, it was observed that the theme nursing covers from care functions to administrative functions in the service sector, as well as present at the judicial level, thus showing how nursing is articulated to the multiple institutional scenarios in order to meet the demands of society in the search for health.

However, because these are studies related to health professionals and nursing itself, it would be common to find publications of scientific research in nursing journals with the purpose of disseminating the profession. However, it was possible to verify that there were publications in journals with objectives pertinent to the work of nursing, with the objective of stimulating reflection and improving scientific technical knowledge for society.

As for the results on published journals, the Text & Context Nursing Journal was the one chosen by the authors to publish their results on nursing and ergology, corresponding to 23%, which is equivalent to three publications. The same score was given to the Revista Brasileira de Enfermagem (23% of the total of papers, which is equivalent to three published journals). Then, the journals Work, Education, and Health and Work had 15%, consolidating two publications each, in the databases. Other journals accounted for 8%. The table below presents the distribution, by periodicals, of the number of articles on the theme published each year (Table 3).

Table 3

Main journals published by the authors studied in this research

Journals	Total publications	2011	2013	2014	2015	2018	2019	2020	2021	2022
Text & Context Nursing Journal	3	-	-	-	-	-	2	-	1	-
Brazilian Journal of Nursing	3	-	-	-	-	-	-	1	2	-
Work, Education and Health	2	1	-	1	-	-	-	-	-	-
Work	2	-	-	-	-	-	-	1	-	1
Latin American Journal of Nursing	1	-	1	-	-	-	-	-	-	-
Bakhtiniana Journal	1	-	-	-	-	-	-	-	1	-

<i>Salud Colectiva Journal</i>	1	-	-	-	-	1	-	-	-	-
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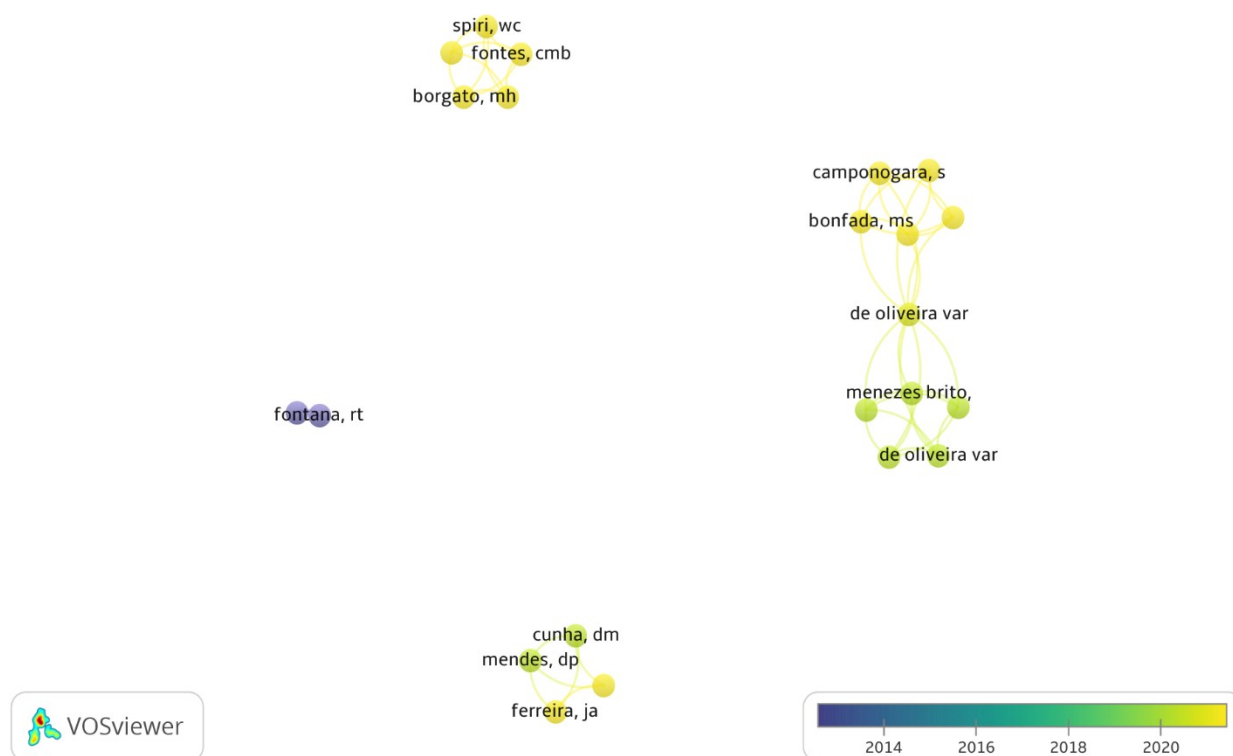
Source: the authors.

Since the work of nursing and the ergological methodology have their emergence in different times, in the second half of the nineteenth and twentieth centuries, due to the social, economic and cultural challenges inserted in the work processes of each time. In view of this, it is essential to add to this study the years of publications in journals indexed in the Databases mentioned here.

Using the VOSviewer© program, it was possible to organize the journals by publication dates. Thus, they were most frequently dated between the period 2019 and 2021. The research shows how beginners are publishing on the linked topics in important journals indexed in the worldwide reference Databases by other researchers (Graphic 3).

Graphic 3

Year of publication of the articles in journals indexed in the Databases.



Source: the authors.

Considering that ergology is present in social areas because it addresses human activity, it can integrate and rely on knowledge from various disciplines, especially Sociology and Philosophy (Couto & Gutierrez, 2021).

According to Ribeiro et al., 2019, there is an interest for research on the knowledge invested and constituted by nurses to manage patient care. For the authors Vocci et al., 2021, management is the vulnerable part of nursing work and, thus, predisposing to the risks that professionals are

exposed to during user care. Thus, it is possible to show the power of ergology on the management activity of nurses.

In order to present ergology as a possibility to bring out knowledge, focusing on micro-regulations operated by human action, one can say that ergology, as an epistemic discipline, also participates in the processes of education, i.e., it prioritizes the valorization of social practices involved by man in his existential project, in close relationship with life and work, in a constant relationship with himself and with the environment where he is inserted, in which he is called to act, confront and be confronted by the environment and, thus, make choices facing the (im)possibilities of managing care, health (his own and that of others) and productivity.

Thus, this bibliometry demonstrated the concern and the growing interest for scientific research in the field of ergology, in the daily clinical care of nurses. However, in every work activity, a certain singular knowledge of the professional is deposited, an invested knowledge resulting from previous experiences, both professional and personal, in their life history and in their constituted knowledge.

Finally, it is relevant to address and clarify that not every form of prescription, antecedent norms and knowledge in disagreement with the work activity are strange or mistaken. Every legacy of human knowledge comes from antecedent norms that outline the prescriptions. In other words, prescriptions are extremely important for the world and for living in society, because in their absence, human beings would have to relearn everything on a daily basis.

The limitations of this study can be understood and explained with the insufficiency of a significant volume of articles on the subject linked to the platforms SCOPUS and Web of Science, in addition it is noteworthy that in the Portuguese language only in Scopus three articles were found and in the Web of Science no article in that language was reported.

Conclusion

The bibliometry proved to be opportune in the data survey and can be easily collected and organized for future works on the subject. In the thirteen articles found, one can return to the reflection regarding ergology in the nursing work process, in which it was observed that the micro-regulations existing in the professional's environment were essential and showed themselves as the possible way for the environment and the work process to become livable through renormatizations. Nursing work, specifically in daily care, was permeated by the hypertrophy of norms, and although these norms played a guiding role for the actions developed there, they proved, at the same time, impossible to anticipate all the variability and specificities of daily health care. It was in the human action of/on the job, when confronted with the norms and being permanently confronted by them, that the regulations took place, that is, these professionals were constantly making regulations in process and managing the (dis)workings, which was revealed by the several studies raised by this study.

It can be concluded then that the theoretical production of nursing is still incipient in which Ergology has been used as theoretical and methodological support, specifically with the intention of giving visibility to the work in the daily care, i.e., the number of articles that address the ergological look to nursing is still modest. However, the subject has gained space, the articles produced have provoked various interests, provoked debates and clashes, shedding light on the work and sometimes (re)orienting management at the local level, with significant improvement in the production of care and management, through a two-way dialogue between specialist knowledge and knowledge in adherence with the work situation, fed by the work activity, in real production conditions.

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