# **CHAPTER 75**

## Mapping of Nursing Research Groups in the Management Area in Brazil

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#### ABSTRACT

Objective: The present study aims at the Mapping of Nursing Research Groups in the Management Area in Brazil arranged in the Directory of the National Council Scientific and Technological for Development (CNPq) as of 2017. In this sense, the research is committed to providing concrete data on distribution, year of creation, institutions to which they are linked, and quantification of scientific production on Nursing Management, identifying the most and least predominant themes. Methodology: This is a descriptive-analytical documentary study, with a quantitative approach through scientometric analysis. The research was carried out in 5 stages. The first step is related to data collection through the parameterized search, in the current base, as the search descriptor "Nursing Management", the second step is the screening of groups in the management area with certified and updated status, the third step is the grouping and interpretation of the data obtained in an excel spreadsheet, the fourth was the survey of the research projects of the groups, and the fifth resided in the categorization of the projects into thematic axes: 1) Patient safety; 2) Workers' health; 3) Care Competencies; Quality management; 4) 5) Management; 6) Educational management; 7) Cost management; 8) Evaluation of health services; 9)

Permanent Education; 10) Management in health services; 11) Organization of work; 12) Risk management; 13) Decision making; 14) Nurse's work process; 15) Staff dimensioning and 16) Resource management. Results and Discussion: We found 70 Research Groups registered in the CNPq Directory. Subsequently, the selection process began, and after excluding the groups in a situation of completion (4 groups), excluded (11 groups), not updated (13 groups) and those not framed in the theme (5 groups), the quantitative remained 38 research groups in the area of nursing management. As a limitation of the research, it was observed that many researchers do not keep their curricula on the Lattes platform with their data properly updated, and the instability of the collection. Conclusion: The research pointed to 38 research groups in the management line, which were located in public higher education institutions. Additionally, it showed a concentration of about 42.11% in the state of SP, with USP holding 23.68% of the number of research groups. Five new groups emerged during the pandemic period, thus revealing the need to encourage the implementation and permanence of these spaces within private universities, isolated colleges, technological education centers, and federal centers of technological education. During the document analysis, a total of 166 projects, in this way, Educational Management represents, 16.27%, the most predominant theme, and Resource Management, with 0.60%, the lowest percentage of productions. The results demonstrate the need for more studies to better understand the disposition of these Groups, incentives related to the exploration of less predominant contents, and factors that influence the permanence and activity of the Groups.

**KEYWORDS:** Nursing; Professional Practice Management; Health Management; Research Groups; Organization And Administration.

#### **1 INTRODUCTION**

With the advent of COVID-19, the spotlight turned to the professional nursing category, exposing their working conditions and relevance in facing the pandemic in the current scenario. The provision of

health care services by nursing is feasible and guided through management. The act of managing transcends the static, it is understood as a dynamic production, articulating practices such as analysis of the work process, research, cooperation, communication and active listening to the individuals involved (Santana et al., 2022; Sanchez et al., 2022; Sanchez et al., 2020; Silva et al., 2020).

Management actions in the sphere of nursing care are directly related to the quality of care provided, thus, where care takes place, management is present. As a result of the new demands that emerge from today's society, the construction of competent professionals begins in the nursing school and within this environment, the sharing of scientific knowledge is attributed to research groups. Therefore, the student's involvement in these spaces allows a reflective practice and generation of new knowledge, which aims to improve the quality of care and nursing practice. In this way, giving, in a material or immaterial way, not only to nursing, but also to society (Fachola et al., 2022).

Within this context, the research process is inherent to the implementation of new practices, improvement and updating of health professionals. In this way, ensuring more trained and qualified professionals, in addition to a positive impact on patient care (Ramos et al., 2022; Barreto et al., 2018).

Research groups in Brazil have lines of research, action based on norms and are included in the National Research Council, through registration in the Directory of Research Groups. They are formed by a team of professors/researchers, undergraduate students, graduate students (lato sensu and stricto sensu) and technicians from the higher education institution. It can be said that they are responsible for the production of scientific knowledge within the academic environment. Additionally, they are characterized as open spaces that facilitate the exchange of knowledge, exposition of ideas, creation of bonds, expansion of perspectives and interprofessional collaboration (Rossit et al., 2018; Silva et al., 2020).

Effective participation in research groups encourages critical thinking, reflection and the creation of technologies and innovations within the scientific scenario, through investigations, discussions and questions made within a given area, seeking to expose knowledge, revealing the results, relevance and material and/or immaterial products (Silva et al., 2020).

A research group can be defined as a collective activity that involves observation, experimentation, discussion and production in an area of knowledge, being a didactic environment conducive to group work. Because it is a place that provides an opportunity for discussion, promotes increased interaction between members and enhances the confrontation of their previous knowledge with other possibilities and explanations, as well as relates theory to practice (Moreira et al., 2018; Silva et al., 2020).

The Directory of Research Groups (DGP) in Brazil began its activities in 1992 at CNPq. The DGP can be characterized as a kind of inventory of scientific and technological research groups in productivity distributed throughout the national territory. In this way, the creation of a permanent research activity by a given institution is a prerequisite for its integration. Thus, the beginning of the stage of elaboration and design of activities aimed at research in an institution does not occur through the DGP (Coxe et al., 2019).

The information entered in the DGP is related to human resources issues that make up the groups

(academics, students, technicians and researchers), the production of knowledge (artistic, scientific and technological), the research segments in continuity, the spheres of application and partnerships between groups and institutions. Based on these data, it is possible to describe the general panorama of scientific-technological production in Brazil and its limitations. Furthermore, the DGP is composed of a current database in which data are systematically updated by the representatives of the groups. Additionally, it is worth mentioning that the censuses take place biannually, they work like a camera, recording in a photo the current base at that particular period and moment (Conselho Nacional de Pesquisa, 2022; Moreira et al., 2018).

The DGP has three main objectives: (1) To serve as a powerful information tool, thus, it can accurately report data on the members, location, finished and ongoing productions; (2) Its census character enables the construction of numerous reflections and research, revealing fields not reached, for example, qualitative assessment of the knowledge produced. Undeniably, this aspect makes it fundamental to the administration and management process; (3) Function as a kind of album, preserving all artistic, scientific and technological production in Brazil (Conselho Nacional de Pesquisa, 2022; Azevedo et al., 2019).

The National Research Council, in the organizational sphere, distributes the areas of knowledge in large areas, basic areas, sub-areas and specialties. On the other hand, in the DGP, the identification of research groups can occur by basic areas and large areas of knowledge (Coxe et al., 2019).

The present study aims to map the Nursing Research Groups in the area of Management in Brazil registered in the Directory of the National Council for Scientific and Technological Development (CNPq).

#### **2 METHODOLOGY**

This is a descriptive-analytical study, with a quantitative approach using scientometric analysis, this is the "quantitative analysis of science, based on secondary sources, without direct observation of the knowledge production process without direct evaluation of the results". In this sense, it studies the emergence and expansion of scientific areas, the formation of human resources and compilations of scientific indicators, overlapping with bibliometrics, which develops patterns and mathematical models to examine the quantitative aspects of the production, dissemination and use of recorded knowledge. (Alvarado & Restrepo, 2018; Momesso & Noronha, 2017).

Scientometrics emerged in the extinct Union of Soviet Socialist Republics (USSR) and gained prominence in the world with the arrival of the Hungarian journal Scientometrics in 1977. It is identified as a science that studies scientific coefficients to give quantitative values to a survey, journal or even researcher; it is the study of the quantitative aspects of science as a discipline or economic activity. It is a segment of the sociology of science, being applied in the development of scientific policies. In other words, the purpose of using it in research is to bring out more clearly and objectively the number of active research groups dedicated to nursing management. In this way, through reflections, propose research and stimulate the expansion of scientific production in the area of management. (Alvarado & Restrepo, 2018).

The quantification of Research Groups arranged in the Work Process Manage in Nursing took place through the Website of the Directory of Research Groups of the National Council for Scientific and Technological Development (CNPq), following the following steps:

#### First step

Step 1: Type "CNPq Research Group Directory" in the Google Chrome search box.

2nd Step: Click on "Research Group Directory - Lattes Platform - CNPq" as a result.

**3rd Step:** On the website of the Directory of Research Groups in Brazil of CNPq, on the Lattes platform, select the option "Search for Groups".

4th Step: Keep selecting the Current Base and Current Census system.

**5th Step:** Type in the search term: Nursing Management and select the option "All words" in the box next to it.

6th Step: In the selection box below, search for : "Group".

**7th Step:** Keep the markings proposed by the system in the part of "Apply the search in the groups" and "Status: Certified and Not updated".

Step 8: Then click on "Search".

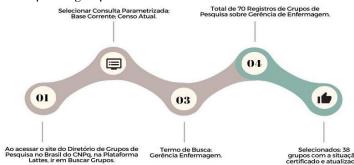
**9th Step:** Through the parameterized query, with the following directions: current base, current census and, using the search term "Nursing Management", 70 Research Groups were found registered on the platform Directory of Research Groups in Brazil of the National Council of Scientific and Technological Development (CNPq).

**10th Step:** After collecting the collected data, the groups were arranged in an excel spreadsheet to enable the mapping. The following figure presents the steps of the methodological path carried out to search for Research Groups in the Directory of Research Groups in Brazil:

Figure 1: Stages of research development, Niterói-RJ, 2022.

1. When accessing the Directory of Research Groups in Brazil website of CNPq, in the Lattes platform, go to Search Groups.

- 2. Select Parameterized Consult; Current Base; Current census
- 3. Search Term: Nursing Management
- 4. Total of 70 registers of Research Groups on Nursing Management
- 5. Selected: 38 certified and updated groups



Source: prepared by the authors (2022).

## Second stage

**1st Step:** The mining process was carried out, after excluding the groups in a situation of filling (4 groups), excluded (11 groups), not updated (13 groups) and those not included in the current theme (5 groups), 38 remained. research groups in the area of nursing management.

## third stage

1st Step: Grouping the data obtained in an excel spreadsheet.

#### fourth stage

**1st Step:** Survey of the research projects of the groups. Search carried out in the lattes of the leader and vice-leader of the research group.

## fifth stage

**1st Step:** Measurement and categorization of projects into thematic axes, namely: 1) Patient safety; 2) Workers' health; 3) Care management; 4) Competencies; 5) Quality Management; 6) Educational management; 7) Cost management; 8) Evaluation of health services; 9) Permanent Education; 10) Management in health services; 11) Organization of work; 12) Risk management; 13) Decision making; 14) Nurse's work process; 15) Staff dimensioning and 16) Resource management.

### **3 RESULTS AND DISCUSSION**

Research groups in the area of management provide essential tools for the construction and development of critical thinking in university students, based on the principle of cooperation and collectivity. Additionally, they return the health benefit to society as a final product of their research (Andrade et al., 2019).

Based on the above, it appears that the work of research groups is beyond the university's walls. Therefore, it is essential to guarantee the continuity of training and growth of health professionals (Mendes et al., 2021).

The data collected on the platform Directory of Research Groups in Brazil of the National Council for Scientific and Technological Development were grouped and organized into a single table, as illustrated below, for analysis and discussion purposes.

Research Groups	state	year of formation	HEI
Care and Epidemiological Practices in Health and Nursing	RN	1994	UFRN
Center for Studies and Research on Hospitals and Nursing	SP	1996	USP
Bioethics and Administration: Teaching and Health Care	SP	1997	USP
Studies on the Health of Nursing Workers	SP	1997	USP
History, Bioethics and Nursing Legislation	SP	1997	USP
Center for Research and Studies in Collective Health	MG	2000	UFMG
Citizenship and Management in Nursing	RJ	2001	UFF
Economic dimension of nursing management	SP	2001	USP
Research Group on Nursing in Mental Health and Epidemiology	AM	2002	UFAM
Research and Extension Group Health Care Management and Nursing Care	RJ	2002	UFRJ
Nursing Administration Research Group	SP	2002	UNITAU
Ecosystem Management in Nursing and Health	LOL	2003	FURG
Study and Research Group on Administration and Information in Health and Nursing	PB	2003	UFPB
Study and Research Group on Health/Nursing Policies and Practices	DF	2003	UnB
Management and Education in Health and Nursing in the Interprofessional Collaborative			
Perspective Studies on Health and Nursing Management	SP	2004	USP
Quality and Safety in Nursing and Health Services	SP	2007	UNESP
Research Group on Health Policies, Management and Practices	SP	2007	USP
Study and Research Group in Nursing and Health Education and Practices	PR	2008	UFPR
	SP	2008	UNICAMP
Patient Safety Study and Research Group	SP	2008	USP
Ethics and Humanization in Health	SP	2010	FCMSCSP
Caring - Managing in Nursing	SP	2010	PUC
Study and Research Group in Nursing Education, Management and Ethics	RJ	2011	UFF
Study and Research Group on Nursing Care Management	SP	2011	UNICAMP
Leadership, Management and Management of Health and Nursing Services	SP	2011	USP
Center for Studies and Research in Management and Informatics in Nursing	SP	2012	UFSCAR
Laboratory of Studies in Health Services Management	DF	2012	UnB
Research Group on Nursing Care	BA	2012	UNEB
Laboratory of History of Care and Image in Nursing - Lacuiden	RJ	2013	UNIRIO
Health and Nursing Management	MG	2014	UFJF
Studies on experiences and integrality dedicated to nursing	RJ	2016	UFF
Study and Research Group on Health Assessment, Technology and Innovation	PR	2018	UEL
Research Laboratory, Practices and Simulated Teaching in Nursing	RJ	2019	UFF
Management Study Group in Scientific Publishing and Occupational Health	PR	2020	UEL
Study group on mental health policy and care	PR	2020	UEL
Health and Nursing Management	ES	2020	UFES
Research Group on Knowledge Management in Health and Nursing	RJ	2020	UFRJ
Research Group in Epidemiology and Public Health	DF	2020	UnB

Figure 3: Result of the search for research groups arranged in the CNPq Directory in the line of management by Brazilian states, year of creation and institution of higher education. Brazil, 2022.

Source: Adapted from http://dgp.cnpq.br/dgp/faces/consulta/consulta\_parametrizada.jsf (2022).

It appears that the number of 38 research groups in the management line are, for the most part, arranged in higher education institutions.

As shown in Figure 4, the University of São Paulo (USP) represents 23.68% of the total of 38, concentrating the highest percentage of research groups. In second position, we have the Universidade Federal Fluminense (UFF) with 10.53% and in third position the University of Brasília (UnB) and the State University of Londrina (UEL) with 7.89%. the need for reflection and research on the reasons that lead to the distancing of municipal universities and non-academic institutions, such as, for example, integrated faculties, schools, isolated faculties and academic centers. The analysis warns of the lack of expansion in these spaces.

HEI	groups	%
FCMSCSP	1	2.63%
FURG	1	2.63%
PUC	1	2.63%
UEL	3	7.89%
UFAM	1	2.63%
UFES	1	2.63%
UFF	4	10.53%
UFJF	1	2.63%
UFMG	1	2.63%
UFPB	1	2.63%
UFPR	1	2.63%
UFRJ	two	5.26%
UFRN	1	2.63%
UFSCAR	1	2.63%
UnB	3	7.89%
UNEB	1	2.63%
UNESP	1	2.63%
UNICAMP	two	5.26%
UNIRIO	1	2.63%
UNITAU	1	2.63%
USP	9	23.68%
TOTAL	38	100%

Figure 4: Distribution of research groups according to higher education institution. Brazil, 2022.

Source: Adapted from http://dgp.cnpq.br/dgp/faces/consulta/consulta\_parametrizada.jsf (2022)

According to figure 5, the state of São Paulo is the most privileged region in terms of the number of research groups, representing 42.11% of the total of 38 research groups. In second position, we have the state of Rio de Janeiro with 18.42% and the state of Paraná with 10.53%, occupying the third position.

The state of São Paulo, presumably, for having a large concentration of institutions and organizations, ends up showing a significant number of Research Groups when compared to other states. It is worth mentioning that the region also has the largest number of doctors and post-docs in the country, which explains the finding and takes them to the top as leaders of research groups (Coxe et al., 2019).

States	groups	%
AM	1	2.63%
BA	1	2.63%
DF	3	7.89%
ES	1	2.63%
MG	two	5.26%
PB	1	2.63%
PR	4	10.53%
RJ	7	18.42%
RN	1	2.63%
LOL	1	2.63%
SP	16	42.11%
TOTAL:	38	100%

Figure 5: Distribution of research groups in the management line by Brazilian states. Brazil, 2022.

 $Source: Adapted \ from \ http://dgp.cnpq.br/dgp/faces/consulta/consulta_parametrizada.jsf \ (2022).$ 

Regarding the year of creation, despite the pandemic context, a large concentration was identified in the period 2020, as shown in Figure 6. The oldest group was created in 1994 and this reveals a difficulty, whether in the context of financial development, human resources and even lack of time, in their continuity and permanence.

. Distribution of research gr	0 <b></b>	oreretation
year of creation	groups	%
2020	5	13.16%
2019	1	2.63%
2018	1	2.63%
2016	1	2.63%
2014	1	2.63%
2013	1	2.63%
2012	3	7.89%
2011	3	7.89%
2010	two	5.26%
2008	3	7.89%
2007	2	5,26%
2004	1	2,63%
2003	3	7,89%
2002	3	7,89%
2001	2	5,26%
2000	1	2,63%
1997	3	7,89%
1996	1	2,63%
1994	1	2,63%
TOTAL	38	100%

#### Figure 6: Distribution of research groups by year of creation. Brazil, 2022.

Source: Adapted from http://dgp.cnpq.br/dgp/faces/consulta/consulta\_parametrizada.jsf (2022).

During the document analysis, as shown in Figure 7, a total of 166 productions was found, allocated according to the respective themes: (1) Patient safety; (2) Workers' Health; (3) Care management; (4) Competencies, (5) Quality management; (6) Educational management; (7) Cost management; (8) Evaluation of health services; (9) Continuing Education; (10) Organization of work; (11) Risk management; (12) Decision making; (13) Nurse's work process; (14) Personnel sizing; (15) Resource management and (16) Management in health services. Thus, Educational Management represents, with 16.27%, the most predominant theme and Resource Management, with 0.60%, the lowest percentage of productions.

## Figure 7: Prevalence of project themes in Nursing Management Research Groups, 2022 . <u>Project Themes</u> - Quantification of the Project themes - Percentage of the Project Themes

Patient security Worker's health Care management Proficiencies **Quality Management Educational Management** Assessment of health systems Permanent education Management in health systems Work arrangements Risk management Decision making Nurse working process People sizing **Resources management** Total of productions

Temas dos Projetos	Quantificação dos Temas dos Projetos	Porcentagem dos Temas dos Projetos			
Segurança do paciente	15	7,23%			
Saúde do trabalhador	20	12,05%			
Gerenciamento do cuidado	15	9,04%			
Competências	8	4,82%			
Gestão de Qualidade	9	5,42%			
Gestão educacional	27	16,27%			
Gestão de custos	6	3,61%			
Avaliação dos serviços de saúde	6	3,61%			
Educação Permanente	14	8,43%			
Gestão nos serviços de saúde	16	9,64%			
Organização do trabalho	11	6,63%			
Gestão de risco	3	1,81%			
Tomada de decisão	2	1,20%			
Processo de trabalho do enfermeiro	10	6,02%			
Dimensionamento de pessoal	2	1,20%			
Gestão de recursos	1	0,60%			
Total de produções	166	100,00%			
Source: The authors $(2022)$					

Source: The authors (2022).

The propositions reported imply the lack of studies aimed at the continuity of groups, expansion of the same in private, technological and scientific institutions and amplification of less predominant themes.

The findings brought in the figures, from the current census of the Directory, bring worrying results for the current reality. It is considered essential to fight for these spaces of academic insertion, expansion, preservation and valorization for a more critical and engaged education with the present. Focusing on the survey of research groups in the management line and understanding the projects that arise from these spaces is fundamental because it makes it possible to understand trends in the production of knowledge and research, in addition to identifying authors and academic partnerships.

Universities are highly capable spaces for scientific resourcefulness, fabrication of interventions and/or solutions aimed at problems identified in society and implementation of significant changes to the socioeconomic process. In this context, research groups function as a kind of entry and exit door for the somatization of knowledge (Souza et al., 2019).

The research group's essence is to engage its members through interest in the management line and involve them in theoretical references, in order to train them in the development of practical activities, thus reaching scientific maturity. In addition, it is worth mentioning that the vast majority of members end up building a welcoming space and affective relationships, which has a positive impact on the process of mitigating adversities in the research stages (Souza et al., 2020).

#### **4 CONCLUSION**

The research groups in the Nursing area, in the Nursing Management subarea, have lines of research and projects on different themes in the management area. The results demonstrate the need for more studies to better understand the disposition of these Groups, incentives related to the exploration of less predominant contents and factors that influence the permanence and activity of the Groups. Through the research carried out, it was possible to quantify and analyze the Research Groups on Nursing Management in Brazil. Regarding the contribution of the study, the collection of data for questions, reflections and collaborations for further research in this segment is elucidated.

The quantitative survey totaled 38 research groups in the management line, these, arranged in public higher education institutions. It pointed to a concentration of 42.11% in the state of SP, with USP holding 23.68%. Additionally, it identified the creation of five new groups during the pandemic context and revealed the need to stimulate the implementation of these spaces within private universities, isolated colleges, technological education centers and federal centers of technological education.

The involvement of university students in management research groups largely contributes to the formation of a professional with a reflective and science-based practice. Although a group contemplates a certain area of knowledge, this one goes through the resignification of knowledge, after all, each member carries and brings with him, in a unique way, his perspective and worldview. It is considered fundamental to fight for these places of academic insertion, for the expansion, for the preservation and valorization for a more critical and engaged education with the present. The group needs to keep in mind that it is not just occupying a space, but occupying in order to build and thus transform.

As a limitation of the study, there is the instability on the platform, sometimes outside the area. This ended up implying a longer data collection.

Bearing in mind the importance of mapping in this sense, as future works, it is expected to carry out the measurement and categorization of the management themes worked on in the groups, their respective projects and the most researched subjects. In addition, it is understood as essential to broaden the discussion by including more studies and adding the regional difficulties for carrying out research groups, calling due attention to the regions that do not have them.

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