



## Brazilian nursing dissertations and theses conducted in intensive care units

Dissertações e teses da enfermagem brasileira acerca da unidade de terapia intensiva

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**Objective:** to analyze the Brazilian scientific production of nursing dissertations and theses conducted in Adult Intensive Care Unit. **Methods:** a bibliometric study through electronic access to the Center for Nursing Studies and Research of the Brazilian Nursing Association was carried out, collecting a sample of 123 dissertations and 27 theses. **Results:** there was an increase in the number of studies over the years; 54.6% were conducted the Southeast and 26.0% from the South regions of the country. As for the type of study, 70.0% were descriptive and 59.3% quantitative. Regarding the theme most frequently researched, 43.3% addressed nursing care, and 38.0% had critical patients as the target population of the scientific research. **Conclusion:** Brazilian nursing theses and dissertations conducted in Adult Intensive Care Unit were predominantly made up of descriptive and quantitative studies carried out in the Southeast and South regions, and addressing the nursing care provided to patients.

**Descriptors:** Intensive Care Units; Nursing Research; Nursing; Bibliometrics; Education, Nursing, Graduate.

**Objetivo:** analisar a produção científica brasileira de dissertações e teses de enfermagem acerca da Unidade de Terapia Intensiva Adulto. **Métodos:** estudo bibliométrico realizado a partir do acesso eletrônico ao Centro de Estudos e Pesquisas em Enfermagem da Associação Brasileira de Enfermagem, com amostra composta por 123 dissertações e 27 teses. **Resultados:** houve aumento na quantidade de estudos no decorrer dos anos, 54,6% foram oriundos das regiões Sudeste e 26,0% da região Sul. Em relação ao tipo de estudo, 70,0% foram descritivos e 59,3% quantitativos. Quanto à temática mais investigada, 43,3% abordou os cuidados de enfermagem e 38,0% contemplou o paciente crítico como população-alvo da investigação científica. **Conclusão:** as dissertações e teses brasileiras de enfermagem acerca da Unidade de Terapia Intensiva Adulto foram constituídas, predominantemente, por estudos descritivos, quantitativos, oriundos das regiões Sudeste e Sul e que versaram sobre os cuidados de enfermagem aos pacientes.

**Descritores:** Unidades de Terapia Intensiva; Pesquisa em Enfermagem; Enfermagem; Bibliometria; Educação de Pós-graduação em Enfermagem.

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## Introduction

The Intensive Care Unit is the hospitalization sector destined to assist patients with a general or potentially serious condition, but with chances of recovery, and whose good prognosis is made possible by intensive care. This sector possesses high-cost advanced technological resources and professionals who need specific qualification, knowledge and skills for provision of intensive care<sup>(1)</sup>.

According to Administrative Rule 3,432/98, tertiary-level hospitals with 100 or more beds must have an Intensive Care Unit, so that at least 6.0% of the total beds of the health institution are used intensive treatment. Intensive Care Units are classified according to the profile of the public assisted. Among its various types (neonatal, pediatric, obstetrical), the adult unit refers to that intended for persons aged over 14 or 18 years, depending on the standards adopted by the institution<sup>(2)</sup>.

Among the professional areas that integrate the multiprofessional intensive care team, nursing stands out. In accordance with Resolution nº 07/2010, the minimum team required for the operation of an Intensive Care Unit must be composed of at least one nurse for every eight beds or fraction at each shift<sup>(3)</sup>. Nursing professionals assume care, administrative and educational assignments in the intensive care setting and remain the longest time providing direct assistance to critical patients<sup>(4)</sup>.

The hemodynamic instability of Intensive Care patients and their greater risk of death require action based on clinical reasoning and technical-scientific knowledge. Considering that Nursing has been consolidated as a science, that its role needs to be supported by scientific evidence and that its presence in Intensive Care Units is mandatory, studies carried out by this professional category in the intensive therapy environment it are very relevant<sup>(5)</sup>.

The analysis of the existing scientific production is very relevant to support future research so that gaps be known and subjected to future scienti-

fic investigation. Among the forms of dissemination of scientific production that can be analyzed, research reports published in the form of dissertations and theses stand out as a requirement for obtaining a master's or doctor's degree in Graduate Programs *Strictu Sensu*.

Considering that such programs are training spaces based on critical thinking and evidence-based practice for solving problems that interfere with health, it should be emphasized that dissertations and theses produced under these programs reflect what and how has been investigated in a given area of knowledge by the scientific community and, therefore, are important to be analyzed.

Bibliometry is a strategy used for quantitative analysis of the characteristics of publications and favors the understanding of the panorama of scientific knowledge and of the gaps still existing, for the elaboration of new studies<sup>(6)</sup>. Thus, the present study aimed to analyze the Brazilian scientific production of nursing dissertations and theses addressing Adult Intensive Care Units.

## Methods

A bibliometric study was carried out in the Brazilian theses and dissertations produced by Graduate Nursing Programs *Strictu Sensu*.

The search for theses and dissertations occurred in January and February of 2016 through electronic access to the directories of the Center for Nursing Studies and Research of the Brazilian Nursing Association. The center was created in Brazil in 1971 with the aim to encourage the development and dissemination of nursing research and has in its collection the largest databank of Brazilian theses and dissertations in the nursing area<sup>(7)</sup>.

The following inclusion criteria were adopted: to be a thesis or dissertation, to have Adult Intensive Care Units as the research scenario and to have been published between the years of 2002 and 2014. The choice of this temporal cut is due to the fact that the

directories of the Center for Nursing Studies and Research had dissertations and theses published in such years in the period of data collection. The exclusion criterion adopted was unavailability of the text in full-length in electronic format.

The titles and abstracts of the 7,180 dissertations and theses available in the directories of the Center for Nursing Studies and Research were read; 7,030 did not address Adult Intensive Care Units. Thus, the sample of this study comprised 150 works, of which 123 were dissertations and 27 theses. A data collection instrument covering the variables analyzed in other bibliometric studies<sup>(8-9)</sup> was prepared, namely: theme studied, educational institution, academic level, year of publication, researched population, methodological approach, type of study and level of evidence<sup>(10)</sup>.

The Microsoft Excel 2007® software was used for the organization of the data and the results were analyzed through descriptive statistics.

## Results

Works published from 2002 to 2014 were found, of which 19 works (15.3%) were dissertations published in 2012, and six (4.0%) were theses published in 2008. Table 1 shows the increase in the number of publications addressing Adult Intensive Care Units over the years.

**Table 1** - Distribution of nursing dissertations and theses addressing Adult Intensive Care Units according to the year of publication

Year	Dissertations (n)	Theses (n)
2002	3	-
2003	5	1
2004	2	1
2005	6	1
2006	13	3
2007	7	2
2008	11	6
2009	6	1
2010	16	-
2011	13	5
2012	19	4
2013	13	1
2014	9	2
Total	123	27

Regarding the geographical location of the graduate programs in which the studies were developed, the Southeast stood out with 81 works (54.0%), followed by the South, with 39 (26.0%). It was observed that there were no works on the subject in the North region. With regard to the institution of higher education to which the researchers were linked, the largest number of studies was concentrated in the University of São Paulo, with 58 papers (38.7%), followed by the Federal University of Santa Catarina, with 26 (17.3%). The distribution of dissertations and theses, according to geographic region of the Graduate Program and the related institution are presented in Table 2.

**Table 2** - Distribution of nursing dissertations and theses addressing Adult Intensive Care Units in relation to the geographic region of the institution of the Graduate Program

Region/Institution	n(%)
Midwest	
Universidade de Brasília	2(1.3)
Universidade Federal de Goiás	4(2.7)
Southeast	
Universidade Federal de São Paulo	1(0.7)
Universidade Federal do Rio de Janeiro	2(1.3)
Universidade Estadual de Campinas	2(1.3)
Universidade Federal do Estado do Rio de Janeiro	4(2.7)
Universidade Federal de Minas Gerais	14(9.3)
Universidade de São Paulo	58(38.7)
South	
Universidade Federal do Rio Grande do Sul	1(0.7)
Universidade Federal de Santa Maria	1(0.7)
Universidade Federal do Paraná	1(0.7)
Universidade Estadual de Londrina	2(1.3)
Universidade Federal do Rio Grande	3(2.0)
Universidade Estadual de Maringá	5(3.3)
Universidade Federal de Santa Catarina	26(17.3)
Northeast	
Universidade Federal do Ceará	3(2.0)
Universidade Federal da Paraíba	4(2.7)
Universidade Federal do Rio Grande do Norte	6(4.0)
Universidade Federal da Bahia	10(6.6)
Universidade Federal da Paraíba	1(0.7)

There was a predominance of quantitative studies, present in 89 (59.3%) studies. Of the remainder, 42 (28.0%) were qualitative researches and 19 (12.7%) were quantitative. Regarding the type of study, 128 (85.3%) were descriptive, 10 (6.7%) were cohort, 8 (5.3%) were methodological, 3 (2.0%) were cross-sectional and one (0.7%) was an integrative review.

Regarding the level of evidence, 131 (87.3%) studies had evidence level six (128 descriptive and three cross-sectional studies), 10 (6.7%) had evidence level four (cohort studies) and the classification does not apply in the case of nine articles (6.0%) because they are methodological studies and one is an integrative review.

A plurality of topics covered in dissertations and theses was observed. These are summarized in Table 3.

**Table 3** - Distribution of themes covered in dissertations and theses

Themes	n (%)
Nursing care	65 (43.3)
Occupational health	34 (22.6)
Subjectivation and emotional state	19(12.7)
Coping with death/dying	9 (6.0)
Family	9 (6.0)
Adverse events	6 (4.0)
Costs	4 (2.7)
Continuing education	2 (1.3)
Patient safety	1 (0.7)
Renal function	1 (0.7)

The population studied in 57 (38.0%) dissertations and theses was patients; in 46 (30.7%) was nurses; in 15 (10.0%) nursing technicians and assistants; in 12 (8.0%) the multiprofessional team; in 12 (8.0%) family members; in 6 (4.0%) teachers; and in 2 (1.4%) nursing students.

The studies whose population was composed of patients investigated the following aspects: adverse events (26.3%), nursing procedures (24.7%), pressu-

re ulcers (14.0%), urinary tract (7.0%), (5.4%), demographic and clinical data (3.6%), Human Immunodeficiency Virus (HIV), sleep, heart disease, delirium, mechanical ventilation, patient safety, quality of life and hosting (1.7% each).

## Discussion

This study presents as a limitation the fact of having contemplated Adult Intensive Care Units. The present results do not represent the scientific production about other Intensive Care Unit modalities, such as pediatric, obstetric and neonatal. Furthermore, it should be noted that the analysis restricted to the dissertations and theses specifically of the area of Nursing may not contemplate the reality of the work carried out by other health professionals who act in this sector.

The highest number of dissertations was published in 2012 and theses in 2008, 2011 and 2012. This fact is related to the considerable growth of graduate nursing programs in Brazil, which presented an increase of 65.0% between 2010 and 2013<sup>(11)</sup>. This have advanced the recognition of Brazilian nursing, but researches still need to constantly improve, so that they may be referenced in other studies and increase their visibility among international publications<sup>(12)</sup>.

A greater number of dissertations were found among the scientific studies addressing Adult Intensive Therapy produced by Brazilian graduate nursing programs. This finding corroborates a study that evaluated the dissertations and theses about nursing administration and found that 75.0% of the scientific production was obtained also from dissertations<sup>(9)</sup>. The explanation for this is based on the fact that the master courses are available in greater number and, their implementation have preceded chronologically that of doctorate programs<sup>(13)</sup>. This indicates an increasing number of masters, prepared for teaching, with an interest in the subject of intensive therapy, which is relevant to the need for qualified professionals to teach high complexity contents in nursing.

The largest number of publications about Adult Intensive Care Units came from the South and Southeast regions. This finding is similar to the results of bibliometric research on moral harassment in the Brazilian scenarios, whose results indicate that 84.2% of theses and dissertations on this theme come also from the South and Southeast<sup>(14)</sup>. The predominance of these regions may be due to their pioneering nature in offering *strictu sensu* courses<sup>(13)</sup>. Given the importance of the contributions to qualified assistance and the need for scientific research to address the particularities of each region, more studies are needed in other regions, including the Northern region.

There was a greater trend towards quantitative studies. These use deductive reasoning, have samples that generally represent the target population of the research, are understood based on the analysis of raw data, use mathematical language to report the causes of a given phenomenon and the relationships between variables, and emphasize objectivity. The limited use of qualitative research in Intensive Care Units can be explained by the difficulty of investigating subjective issues (characteristics of qualitative studies) of patients in this sector, given the severity of their clinical situation. Furthermore, the concern with data that involve the survival of critical patients may contribute to the inclination to perform quantitative research.

The result found in the present study contrasts with an international bibliometric study conducted in nursing dissertations and theses, which showed that 57.0% of nursing dissertations and theses in that country used qualitative approach<sup>(15)</sup>. This divergence shows the use of both approaches in nursing investigations. This fact is relevant, since the care provided by this professional category demands scientific evidences that contemplate both objective (quantitative) aspects and subjective questions, which are only addressed by applying qualitative analysis. Thus, there is a need for more qualitative studies in the Adult Intensive Care Unit environment; it is important to understand issues that permeate critical

and complex care and constant coexistence with death in this sector<sup>(16)</sup>.

The type of study that predominated in the nursing dissertations and theses addressing Intensive Care Units was descriptive (with level of evidence 6). This prevalence was also found in a bibliometric study of productions about breastfeeding in Cuban medical journals, with 38.8% of descriptive studies<sup>(17)</sup>.

When considering that nursing research contributes to the association between theories and clinical practices and that this contributes to decision making, experimental studies and systematic reviews with meta-analysis needed; their high levels of evidence scientifically support the nursing actions in Adult Intensive Care Units.

The subtheme that prevailed in dissertations and theses was related to nursing care. This subtopic also predominated in a bibliometric study carried out in the scientific nursing production in Colombia<sup>(18)</sup>. The inclination of nursing to investigate its care measures points to the numerous research problems that permeate the exercise of this professional category, which can be explored scientifically. Nursing has a care based on humanization and holistic care, seeking quality in through systematized assistance. Therefore, nursing care requires studies to support their actions, especially in critical care settings, in which actions that are not based on scientific evidence interfere with patient survival and sequelae.

Another topic highlighted by the studies was occupational health. This predominance may have a relation with the insalubrity of the sector, due to ergonomic, biological and psychological issues<sup>(19)</sup>. It is important to investigate this topic because factors such as overwork and stress are relevant in the incidence of pathologies and are inherent to the work dynamics of intensive care nursing.

The lack of studies on permanent and continuing education is a matter that deserves attention and investment in future studies. The multiprofessional team needs constant updating on the scientific evi-

dence for intensive care. Lifelong learning is an effective method of promoting change through education in the work environment<sup>(20)</sup>. Such changes in intensive care may lead to a reduction in mortality and increase in the patients' quality of life, improvements in the working conditions of the multiprofessional team acting in this sector, a more humanized assistance to family members, and even a reduction in expenses with care.

Regarding the studied population, the majority of the studies were carried out with patients, which converges with findings of a bibliometric study on palliative care<sup>(9)</sup>. This predominance in Intensive Care Units is understandable, because this is a closed sector, with usually bedridden people and with good documentary records, facilitating the realization of research. The critical conditions of intensive care patients offer a variety of problems to be investigated. The predominance of studies with patients is relevant, since these are the priority in the hospital scenario. It is focusing on them that the multiprofessional team and the health system address the treatment in a holistic, universal, integral and equitable way.

The identification of the trajectory of Brazilian nursing dissertations and theses conducted in Adult Intensive Care Units can guide future investigations and nuclei of studies on the theme, in order to contribute to the establishment of partnerships between institutions and Professionals interested in Intensive Care Units as a research scenario.

## Conclusion

This study showed the trends and gaps in the nursing research related to the Intensive Care Units. The bibliometric indicators analyzed showed a predominance of descriptive and quantitative studies with level of evidence 6, carried out in the Southeast and South regions of the country, addressing nursing care and with Intensive Care Unit patients as the investigated population.

## Colaborations

Santos MAB and Galindo Neto NM contributed to the project design, data analysis and interpretation, article writing and final approval of the version to be published. Sá GGM contributed in the analysis and interpretation of the data, writing of the article and final approval of the version to be published. Caetano JA, Costa AB and Muniz MLC contributed in the relevant critical revision of the intellectual content and final approval of the version to be published.

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