

## DOCTORAL EDUCATION IN NURSING IN BRAZIL

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*This study aimed to present the trajectory of doctoral education in nursing in Brazil from 1981 to 2004. A descriptive and analytical study was carried out, using documents available at the Brazilian Federal Agency for Support and Evaluation of Graduate Education, a body responsible for the recognition, evaluation and coordination of graduate studies in Brazil. Data analysis revealed that there are 13 doctoral courses in nursing, most of which are concentrated in the Southeast (69.2%), and that teaching and scientific production have been influenced by demographic and epidemiological transitions and by historical, social and political movements. Knowledge production is related to Nursing Care, Health Management and Practices and Theoretical Foundations of Care. Doctoral programs have prepared leaders in the fields of education, research and public policy development, in health institutions as well as in public policies, health institutions and governmental entities.*

**DESCRIPTORS:** education, nursing; education; nursing

## LA EDUCACIÓN DEL DOCTORADO EN ENFERMERÍA EN BRASIL

*El objetivo de este trabajo fue presentar la trayectoria de la educación del doctorado en Enfermería en Brasil de 1981 a 2004. Se trata de un estudio descriptivo y analítico que utilizó datos documentados por la Coordinación de Perfeccionamiento de Nivel Superior (CAPES/MEC), órgano responsable por el reconocimiento, evaluación y coordinación de estudios de postgrado en Brasil. El análisis de los datos puso en evidencia que existen trece cursos de doctorado en Enfermería, con concentración en la región sureste (69,2%), y que la enseñanza y la producción científica han sido influenciadas por la transición demográfica, epidemiológica y por los movimientos históricos, sociales y políticos. La producción del conocimiento está relacionada a la asistencia de Enfermería, Gestión y Prácticas de Salud y Fundamentos Teóricos del Cuidar. El programa de Doctorado ha preparado líderes en educación, investigación y desarrollo de políticas públicas, en instituciones de la salud y órganos gubernamentales.*

**DESCRIPTORES:** educación en enfermería; educación; enfermería

## EDUCAÇÃO DO DOUTORADO EM ENFERMAGEM NO BRASIL

*O objetivo do trabalho foi apresentar a trajetória da educação do doctorado em Enfermagem no Brasil de 1981 a 2004. Estudo descritivo, analítico que utilizou dados documentados pela Coordenação de Aperfeiçoamento de Nivel Superior (CAPES/MEC), órgão responsável pelo reconhecimento, avaliação e coordenação de estudos de pós-graduação no Brasil. A análise dos dados evidenciou que há treze cursos de doctorado em Enfermagem, com concentração na região sudeste (69,2%), e que o ensino e a produção científica tem sido influenciados pela transição demográfica, epidemiológica e pelos movimentos históricos, sociais e políticos. A produção do conhecimento está relacionada à assistência de Enfermagem, Gestão e Práticas de Saúde e Fundamentos Teóricos do Cuidar. O programa de Doctorado tem preparado líderes em educação, pesquisa e desenvolvimento de políticas públicas, em instituições de saúde e órgãos governamentais.*

**DESCRIPTORES:** educação em enfermagem; educação; enfermagem

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## INTRODUCTION

Graduate education is a basic condition to grant a higher education institution the college character that turns it into a science and culture-producing center. Besides constructing the framework for research development, graduate education plays a social role, and its performance depends on the mobilization of the academic community and integration between the Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES) and the National Council for Scientific and Technological Development (CNPq).

In this country, the National Graduate Education System (SNPG), approved by the Federal Education Council through a document frequently referred to as the Sucupira Decree, was established by the University Reform of 1968. Its expansion started in the 1990's and involved all knowledge areas, which looked for answers that would indicate the need to train qualified teaching staff to attend to the country's higher education demands, as well as to broaden colleges' research capacity. This would only be possible by training new researchers<sup>(1)</sup>.

The SNPG is coordinated by the Ministry of Education (MEC) through CAPES. This foundation supports the MEC in the formulation of graduate policies and in the coordination and stimulation to concede fellowships, grants and other mechanisms directed at human resource formation for higher education and teaching.

The SNPG is being implemented on the basis of five National Graduate Education Plans (PNPG)<sup>(2)</sup>. The I PNPG (1975-1979) indicated the expansion of graduate education as a public objective, integrated with social and economic development policies. The central objective of PNPG II (1982-1985) was human resource formation for teaching, research and technical activities, giving rise to the need to institutionalize and improve evaluation, with community participation. The III PNPG (1986-1989) evaluated that the quantity of researchers in Brazil was insufficient for the country to achieve a favorable level of scientific and technological training, emphasizing the need for research development at university level and for integration between graduate education and the Brazilian science and technology system. The main points of PNPG IV (1996) were: evolution of graduate education organization forms;

human resource formation and labor market; integration between undergraduate and graduate education, academic career and qualification of teaching staff; graduate education evaluation by CAPES; expansion of graduate education, regional disequilibria and graduate education funding and costs. The aims of PNPG V (2005-2010) are: stabilizing and inducing Brazilian graduate education; strategies for improving the performance of the graduate education system, that is, creating specific programs and greater articulation between federal and state agencies for program and research support; research funding; introducing new graduate education models to strengthen all education levels; formation of non-academic staff; stimulating national and international cooperation and, finally, preserving quality and periodicity of graduate education system evaluations<sup>(2)</sup>. In this sense, the SNPG evidences three aspects: 1- adoption of evaluation criteria by the scientific and academic community, under the coordination of CAPES; 2- expansion of research development funding by CAPES, CNPq and State Foundations; 3- permanent participation of scientific community in the evaluation and reevaluation process of Brazilian graduate education.

In its search for quality, the Brazilian system has elected scientific production as one of the main evaluation parameters for *Master's and Doctoral Graduate Education Programs*.

In evaluating the quality of these programs, CAPES assumes three main commitments: first, *to do well what is being badly done*, which means introducing systems for diagnosing the functioning of different sectors and identifying their strong and weak points; second, *to do better what is being done well*, which refers to a strategic institutional qualification and development plan that is capable of consolidating and sustaining achievements; and, finally, *doing what is not being done and doing it well*, that is, incorporating devices that facilitate and allow for systematic innovations and growth processes<sup>(3)</sup>.

These three commitments to graduate education quality and rapid social changes produced by globalization, the age of information, demographic and economic changes, public policies, changes in Brazilian education and health, as well as the removal of international barriers, give rise to the question about which doctoral education model society requires in the search for high-quality health care.

In response to this inquiry, our study departs from the premise that doctoral education should be founded on the limits and possibilities of its historical and cultural space which, in turn, is not static, but subject to continuous transformations. Hence, nursing doctoral education is dynamically adjusted to social evolutions and obeys to professional and health sector demands. Thus, it is the product of a multiplicity of social processes, historically constituted on the basis of health professional practices and the social environments these practices are developed in.

In this perspective, we focus on nursing doctoral formation in Brazil, not as an idealized and abstract phenomenon, but as a part and product of nursing knowledge construction.

Based on these considerations, we present the trajectory and tendencies of nursing doctoral education in Brazil between 1981 and 2005, not only with a view to constructing knowledge about the nursing formation process, but also to support a strategic plan that sustains graduate policies for the nursing area.

To reach these objectives, we analyzed reports on Graduate Programs in Nursing and documents available in CAPES' statistical bases CAPES/MEC<sup>(4)</sup>. Data were collected from Master's and Doctoral Graduate Programs by applying an instrument with the following variables: Program history, geographic location, number of graduates, doctoral education project, dissertations produced between 1981 and 2004, research lines in graduate programs and evaluation process.

## **GRADUATE NURSING EDUCATION - EMPHASIS ON DOCTORAL FORMATION**

At first, graduate education policies in Brazil focused on faculty training; next, the focus moved towards the performance of the graduate education system and the SNPG, as well as to the development of scientific and technological research at college level, with a view to attending to national priorities.

Still in the framework of the I PNPGE, CAPES systematically accompanied the entire process of implanting the graduate program evaluation system, aimed at guaranteeing the academic quality of the SNPG.

The general SNPG expanded in 2003, when 1,819 programs were offered, representing a growth by 15.9% in relation to the triennium 1998-2000. However, not all geographic regions grew at the same pace: the Southeast concentrates 66.57% of doctoral courses, followed by South (17.6%), Northeast (10.4%), Central-West (4.11%) and North (1.76%)<sup>(4)</sup>.

In the 1970's, the first doctoral graduates in Nursing were trained in the Southeast, in courses affiliated with the Faculty of Medicine. After the formation of nursing doctoral graduates, the Anna Nery School of Nursing at the Federal University of Rio de Janeiro created the first Brazilian Masters course in 1972. After its implementation, other courses were established in different regions.

Due to scientific and technological advances and the urgent need to train doctoral graduates, the University of São Paulo College of Nursing and the University of São Paulo at Ribeirão Preto College of Nursing joined forces and created the Interunit Doctoral course. The doctoral course in Nursing implanted at these institutions, which was the first (1981) in Brazil and in Latin America, started a new age in nursing, offering the possibility to train doctoral graduates in nursing who would develop research that attended to national priorities.

From this moment onwards, the scenario of Brazilian graduate education has been gradually taking form and expanding, permanently seeking to maintain academic excellence. In this sense, research is being developed that attends to the population's and the national health system's interests. Although this expansion movement is directed by quality and regional disequilibria, Brazilian graduate education bodies are worried about the distribution of the courses offered and the flexibilization of the nursing graduate education model, as new courses are being created, mainly in more destitute regions.

Until 1984, there were few Nursing doctoral graduates in Brazil, as most faculty members had graduated in other areas and countries. The SNPG expansion policy in the 1990's led to a significant rise in doctoral graduates in different knowledge areas, particularly in nursing. The range of knowledge areas aimed to comply with the need to train qualified faculty to attend to the expansion of Brazilian higher education and expand universities' research capacity by training new researchers.

As from 1993, CAPES/MEC considered the timing was right to organize graduate education into knowledge areas, which were: Multidisciplinary and Teaching, Applied Social Sciences, Agricultural Sciences, Human Sciences, Biological Sciences, Engineering; Linguistics, Languages and Arts, Exact and Earth Sciences and Health Sciences. The Health Science area consisted of: Medicine I (clinical), Medicine II (Psychiatry, Pediatrics and Nutrition), Medicine III (Surgery), Dentistry, Pharmacy, Nursing, Collective Health, Physical Education, Physiotherapy and Occupational Therapy. Each area component had a representative, responsible for acting in different CAPES/MEC commissions. In terms of growth in doctoral courses between 1996 and 2004, the Health Science (22.7) area experienced the largest increase among all knowledge areas. 4.3% growth rate in Nursing doctoral courses in comparison with other Health Science areas.

Based on the above information, we analyzed nursing graduate programs' reports on their activities in 2005, specifically programs that offered doctoral courses, and found the following results: in 2005, 27 master and doctoral nursing graduate programs were recognized in Brazil, representing a 31.25% growth in relation to the previous triennium 1998-2000. However, this growth only occurred in the South and Southeast; the same number of programs was maintained in the Northeast.

In terms of location, 15 (55.5 %) master and doctoral nursing graduate programs were offered in the Southeast; 5 (18.5%) in the South; 5 (18.5%) in the Northeast, two (7.5%) in the Central-West and none in the North<sup>(4)</sup>.

In terms of graduate education, according to CAPES data, graduate programs in all knowledge areas conceded 35,724 degrees in the triennium 2001-2003; 8,094 of these at doctoral level (Brasil, 2005b). More specifically in nursing, 343 doctoral certificates were granted in the same period, 76.40% of which in the Southeast; 11.07% in the South and 12.53% in the Northeast<sup>(4)</sup>.

The number of nursing graduate programs and doctoral courses has experienced a considerable increase in recent years; however, in spite of the models proposed by public policies to develop Brazilian graduate education, regional inequalities persist in the number of doctoral graduates as well as in the number of graduate programs offered in this knowledge area.

Initially, the nursing doctoral model in Brazil focused on preparing students through in-class subjects (duration of approximately one year), followed by a qualification exam and culminating in the defense of a dissertation. This approach aimed at training researchers to test and develop nursing knowledge. However, it should be highlighted that Brazilian nursing leaders are discussing the perspective of changing doctoral education. The current focus of their discussions is the adherence to learning experiences, in compliance with doctoral courses' pedagogical project, always prioritizing population health and health service management needs. In this sense, Brazilian universities have been stimulating their nursing doctoral students to pass between one and two semesters at high-quality foreign universities, with a view to greater interaction with reference centers in the area.

The key component of doctoral education is the annual evaluation. The scientific community participates in the construction of the evaluation process, conducted by peers. For this purpose, the nursing area has adopted the same assessment criteria as other health areas, such as medicine, dentistry, pharmacy, physiotherapy, occupational therapy, physical education and public health, favoring its visibility and scientific nature. This evaluation model has made Brazilian graduate programs consolidate their doctoral courses. However, some items still need greater study before being consolidated, in view of the particularities of nursing as a knowledge area<sup>(5)</sup>.

In 2001, nursing leaders at CAPES and graduate program coordinators elaborated the agenda of nursing doctoral education (Table 1). This work consisted in organizing priority research lines, defined as follows: "the professional category must be understood as comprising the sociopolitical space of the profession and includes studies concerning theoretical, philosophical, historical and ethical fundamentals, as well as the technological production in the area. The clinical category refers to the objective reality that can be perceived, thought about and represented. Hence, the care given to human beings during the health and disease process is considered in this category. Finally, the organizational category is related to the nursing profession in the context of service management, health and education practices, and participation in public policies"<sup>(6)</sup>.

Table 1 - Description of Research Lines in Graduate Nursing Programs /CAPES – Florianópolis, 2001

| Area/Field 1<br>Professional                                         | Area/Field 2<br>Care                   | Area/Field 3<br>Organizational                       |
|----------------------------------------------------------------------|----------------------------------------|------------------------------------------------------|
| 1.1 Theoretical-philosophical foundations of Health and Nursing care | 2.1 Care process in Health and Nursing | 3.1 Health and Nursing policies and practices        |
| 1.2 Technology in Health and Nursing                                 | 2.2 Health and quality of life         | 3.2 Education and Nursing policies and practices     |
| 1.3 Ethics in Health and Nursing                                     | -----                                  | 3.3 Social production and work in Health and Nursing |
| 1.4 Nursing history                                                  | -----                                  | 3.4 Health and Nursing service management            |
| -----                                                                | -----                                  | 3.5 Information/communication in Health and Nursing  |

Carvalho, 2002

Between 1983 and 2001, 448 nursing doctoral dissertations were defended in Brazilian graduate programs. Their results show that most studies were produced in the care (171 or 38.1%) and organizational area/field (164 or 36.6%), followed by the professional area (86 or 19.1%). The most frequent research lines were: *Health and quality of life, Care Process in Health and Nursing*, in Care; *Education and Nursing Policies and Practices, Health and Nursing Service Management*, in the Organizational area; and *Theoretical-Philosophical Foundations of Health and Nursing Care*, in the professional area<sup>(7)</sup>.

The most frequent theme areas were: *Women's Health, Nursing and Health Management, Collective Health and Child Health*, among others. This predominance may be due to the fact that the first research lines, adopted in graduate programs created in the 1970's, referred to Women's Health, Child Health, Collective Health / Public Health and Administration / Management.

The large number of studies on women's health and service management reveals that, in Brazil, women's health is one of the main social and political challenges.

In terms of research lines and methods, study or research type, most studies were either exploratory with a qualitative approach or studies that sought knowledge about reality or understanding of social phenomena, indicating a paradigm change in the nursing knowledge construction process, which evidences a tendency towards qualitative studies. In this sense, phenomenological-hermeneutical, ethnographic, historic and social studies, among others, revealed possibilities to obtain a deeper knowledge or understanding about the social phenomena that permeate nursing practice.

The use of different methods and theoretical approaches has required contents and theoretical foundations from other areas, offering a wider chance

of knowledge construction and professional improvement from a scientific and cultural point of view.

Our analysis has clearly shown an increase in the number of courses and doctoral graduates. Moreover, communication vehicles are allowing for a more intense and agile information exchange among researchers, favoring the development of research and Nursing itself.

The scientific production originated by the theses considered here indicates the legitimacy of the research lines defined by the nursing area at CAPES in terms of range, making it possible to accompany nursing research tendencies as well as their consolidation and consistency.

The consolidation of nursing research lines and joint research initiatives in partnership with research groups from different regions in Brazil as well as abroad offers possibilities to identify research priorities and produce less fragmented knowledge. These factors favor greater articulation and integration in multidisciplinary knowledge.

The range of subjects from diverse areas involved in interdisciplinary training and the above mentioned partnerships point towards a tendency aimed at improving nursing education.

On the other hand, the increase in nursing knowledge all over the world has contributed to improve doctoral education, influencing both doctoral education programs (research development) and professional practice. With a view to achieving excellence, doctoral teaching staff has been mobilized to exchange knowledge with international researchers, whether through postdoctoral courses or collaborative research, closing inter-institutional agreements or presenting research at international congresses, with a view to promoting advances in teaching models.

This articulation represents a strong tendency in the efforts to find solutions to predominant health



problems, whether these are current or future, global or, at least, multinational or international<sup>(6)</sup>, displaying nursing as a profession of global importance. This reveals the relevant role of international articulations to improve doctoral education in Brazil and other countries.

In Europe, some countries are only starting doctoral education in nursing, while others have already reached high educational and research levels. This indicates the possibility of establishing a collaborative network among different European universities, through the European Academy of Nursing and the Nordic Academy for Advanced Study. In Europe, the study area of Nursing doctoral education depends on each university's program; in Finland, for example, research is more directed at the clinical area, followed by education and, finally, administration<sup>(8)</sup>.

A comparison between nursing doctoral education in Brazil and in Europe and North America reveals that the produced knowledge is founded on similar factors, and that there is also a need for greater interlocution among different universities and researchers with a view to international networking. Moreover, in these regions, variables like population ageing, health priorities (analysis of morbidity, disability and death causes), social and economic factors and health sector organization constitute essential themes for research development<sup>(6)</sup>. In North America, countries like the United States and Canada promote the expansion of nursing knowledge by emphasizing individual, family and community care, instead of focusing on disease. Nursing knowledge in North America has rapidly expanded due to the increase in research funds available for doctoral students and graduated researchers. Contextual factors influencing knowledge development in doctoral programs include social, economic, political and demographic indicators, as well as the context of the health system itself<sup>(8)</sup>.

As a result of the guidelines established for doctoral education in Brazil, universities and nurse researchers attempt to collaborate with international universities and researchers on a more consolidated base, with a view to implementing multicenter research with a wider range of alternative methodologies, including trials. Another relevant aspect is research funding in Brazilian nursing, which

is affected by the limited number of agencies and the large number of competitors for these grants.

Special attention should also be given to the impact factors of research. This parameter should be followed and measured by researchers; the produced knowledge should be evaluated, measuring whether this knowledge has contributed to professional practice; strategies should be defined that allow organizations to implant research results and establish consortia among universities, researchers and nursing professionals. These and other issues are essential for the consolidation of Brazilian nursing research, in view of the results presented by Erdmann et al. (2005).

## FINAL CONSIDERATIONS

The education system, as one of the strategic points in Brazil's socioeconomic and cultural development process, has shown that nursing doctoral education provides an important contribution to the construction of social knowledge in health. In this perspective, many of the predominant current and future health problems will be global, or at least multinational or international<sup>(9)</sup>.

Both the number of doctoral graduates and scientific production have experienced a steep growth, although studies on interventions in professional practice and technological development are still limited. The greatest challenge ahead is the need for nurses to develop experimental research, containing proposals to change health practices. Studies demonstrate a rising tendency in this sense, but also point towards the need for researchers to carry out interventionist studies directed at professional practice. The most used strategies are the preparation of students within the interventionist research line and articulations with national and international researchers, through 'sandwich' and postdoctoral programs. Current programs already offer instruments for this new education mode, aimed at expanding this area. Thus, there is an urgent need to understand individual differences between researchers, as well as the context of universities and the organization of Brazilian agencies and culture, with a view to making nursing doctoral education into a feasible challenge in the preparation of new generations of nursing leaderships.

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