

Secondary professional education: characterization of scientific production in graduate studies

Ensino médio profissionalizante: caracterização da produção científica na área da pós-graduação

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Abstract

Objective: The aim of this study was to identify and characterize the scientific production generated in graduate programs in Brazil, between 1994 and 2011.

Methods: Descriptive exploratory study using a quali-quantitative approach, consisting in the analysis of the quantitative processes of the production, dissemination and use of information, allowing to identify behaviors in literature and its evolution in a certain context and time, as well as the analysis of contents proposed by Bardin, as a systematic and objective analysis technique to describe the contents of the messages to characterize the scientific production.

Results: A total of 74 studies were identified, of which 85.14% (63) were academic dissertations, 8.1% (6) were professional dissertations and 6.76% (5) were theses. This production was more significant in the years of 2005 and 2009, with 10.80% (8) and 12.15% (9), respectively. The South and Southeast regions were the most productive, whereas there was a lack of studies in the North region. From the studies produced, 78.38% (58) approached the teaching-learning process, 12.16% (9) approached curriculum directives and 9.46% (7) administrative-management aspects of the schools.

Conclusion: The scientific production in the period was identified and most of the theses were characterized as teaching-learning processes.

Resumo

Objetivo: Este estudo objetivou identificar e caracterizar a produção científica gerada pelos programas de pós-graduação stricto sensu no Brasil, no período de 1994 a 2011.

Métodos: Estudo descritivo, de caráter exploratório e natureza quantiqualitativa, analisou os processos quantitativos da produção, da disseminação e uso da informação, identificando comportamentos da literatura e sua evolução e época determinados e da análise de conteúdo proposta por Bardin, como técnica de análise sistemática e objetiva de descrição dos conteúdos das mensagens para caracterizar a produção científica.

Resultados: Identificaram-se 74 estudos, sendo 85,14% (63) dissertações acadêmicas, 8,1% (6) dissertações profissionalizantes e 6,76% (5) teses. A produção mais significativa ocorreu nos anos de 2005 e 2009, com 10,80% (8) e 12,15% (9). Evidenciou-se predomínio de produções nas Regiões Sul e Sudeste e ausência na Região Norte. Os estudos resultaram em 78,38% (58) processos ensino-aprendizagem, 12,16% (9) diretrizes curriculares e 9,46% (7) aspectos administrativo-gerenciais das escolas.

Conclusão: A produção científica no período foi identificada e a maioria das teses foi caracterizada como processos de ensino-aprendizagem.

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Introduction

The education process of secondary professional nursing courses have been focusing on meeting the healthcare needs of the population since the 1940's.

Secondary professionals in this area represent the largest percentage of professionals who provide healthcare to the population. According to data from the Nursing Portal,⁽¹⁾ among the 190,732,694 Brazilian inhabitants, 1,480,653 are nursing professionals, making up 0.77% of the population. From this total, 271,809 are nurses (18.36%) and 1,208,844 (81.34%) secondary professionals.

The Brazilian Federal Nursing Council (COFEN, as per its acronym in Portuguese) regulates the dimensioning of personnel by means of the Resolution COFEN-293, from September 21, 2004, according to the Patient Classification System (SCP). The article 5 of this resolution considers:⁽²⁾

1. In minimum and intermediate care, 27% of nurses (minimum six) and 73% of nursing technicians and assistants;
2. In semi-intensive care, 40% of nurses and 60% of nursing technicians and assistants;
3. In intensive care, 55.6% of nurses and 44.4% of nursing technicians and assistants.

Based on the reality, it is understood that these data highlight the representativeness and significance of nursing assistants and technicians in healthcare and nursing services in Brazil. Nevertheless, in spite of this amount of secondary professionals, these general healthcare services remain precarious, be they public or private, primary, secondary or tertiary. In parallel, a flawed education system graduates professionals without the due preparation, generating inefficiencies and higher costs due to the large number of professionals needed and the flaws in the healthcare provided.

In spite of the changes of the globalized world, many difficulties arise in relation to the conception, organization and structure of the

education of these professionals to cater to the special needs of the population, as well as to society's own healthcare needs.⁽³⁾

Regarding the current professional education policies, as per federal law no. 9394 of December 20, 1996, entitled Law of National Education Directives and Bases (LDB), a valuation can be perceived as to establishing social, affective, psychomotor and cognitive competences, in addition to technical ones, so as to educate qualified professionals capable of exercising their citizenship.⁽⁴⁾ Nevertheless, in practice, secondary professional nursing courses did not have its identity clearly defined, given the absence of specific government projects.⁽⁵⁾

The national healthcare and nursing policies attempt to offer higher education graduates the capacity of acting in favor of people's quality of life, by means of higher and technical teaching, managing healthcare services and units, direct healthcare, research in healthcare/nursing and inspection of professional activities.⁽⁶⁾ Thus the nurses perform the management of the care, private actions and the nursing assistants/technicians, under their supervision, provide direct care to patients. Thus, the activities of secondary nursing professionals play a central role in the quality of the healthcare/nursing services provided.⁽⁷⁾

Considering that nurses are directly responsible for the process of educating secondary nursing professionals, it was understood as a priority to identify and characterize the state of the literature on teaching nursing technical education.

In this sense, the aim of this study was to identify and characterize the scientific production generated in graduate programs in Brazil, by nurses, between 1994 and 2011. It is worth mentioning that the entire production from these programs is stored online on databank of CAPES (Portuguese acronym for the Brazilian Federal Agency for Support and Evaluation of Graduate Education), which makes it a reliable databank for investigations. Hence, this databank was used as a means to know this scientific production and meet the objectives of this study.

Methods

The development of a study always supposes the challenge of choosing the most adequate scientific method to obtain answers to scientific hypotheses, based on the study object, enabling to revealing knowledge gaps and being used as a source of information to favor decision-making.⁽⁸⁾

This descriptive exploratory study using a quantitative-qualitative approach, was based on the basic assumption that secondary nursing courses are a theme that is a part of the daily life of nurses, directly impacting healthcare service quality. The aim of this study was to identify and characterize the scientific production generated in graduate programs in Brazil, by nurses, between 1994 and 2011.

Abstracts of dissertations and theses approaching nursing technical education and stored in the databank within a certain period of time were consulted.

Data were collected in September 2012, having as a source the CAPES databank. The following health sciences descriptors (DeCS, as per its acronym in Portuguese) were used, according to data from the existing scientific literature in the sources of information in the Virtual Health Library (BVS, as per its acronym in Portuguese): “technical nursing school”, “secondary nursing courses”, “technical nursing education”, “professional nursing education”. The inclusion criteria comprised theses and papers written by nurses, and was confirmed by searching the name of the author in the *Lattes Curriculum* of the National Scientific and Technological Development Council (CNPq, as per its acronym in Portuguese).

After this definition, data were inserted into a Microsoft Excel® spreadsheet with the following information: title, objective of the study, type of production (academic paper, professional paper or thesis), year of submission, graduate program/teaching institution and region.

In the continuation, data were submitted to a qualitative analysis by means of a general reading of the abstracts of theses and papers. The analysis of the thematic content (or empiric content,

which guides the specificity of the theme) of the titles and objectives of the studies defined the prevalent study categories.

Thus, the analysis was split into three stages: the first consisted in the selection and organization of the material with the performance of the summarized reading and the constitution of the corpus, the second one encompassed the exploration of the material; and the third one, the treatment of data.

Results

In the period between 1994 and 2011, nurses produced 74 academic and professional master theses and dissertations regarding technical nursing education, as shown in table 1.

The years with the largest number of submissions were 2005 and 2009, each year with 10.80% (8) of the productions, followed by the year of 2006, with 12.15% (9).

The most significant production happened in graduate programs in the Southeast region, with 71.62% (53), followed by the South region, with 17.57% (13), both from 1994. In the Northeast, the production was also low and only after 2001, as it may be seen in tables 1 and 2.

The productions of the Northeast region were concentrated in the graduate programs of the states of Paraíba and Rio Grande do Norte.

The analysis of the areas of knowledge in which the papers and dissertations were submitted revealed that 55.9% approached graduate programs in nursing, being 54.05% (40) in “nursing”, 1.35%⁽¹⁾ in “nursing, nursing education, planning and educational evaluation”, 4.05% (3) in “public healthcare nursing” and 1.35% in “psychiatric nursing”, followed by education graduate programs, with 18.91% (14), and others which, put together, make up 25.30% (15), as per table 2.

Table 3 shows that most productions consisted in dissertations of academic master’s degree, making up 85.14% (63), followed by professional master’s degree, with 8.10% (6). The theses corresponded to

Table 1. Production regarding secondary nursing education by year

	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total (%)
N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0(0)
NE	-	-	-	-	-	-	-	1	-	1	-	1	1	1	-	2	-	-	7(9.46)
SW	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	(1.35)
SE	1	1	-	2	1	2	3	2	3	1	6	7	3	4	5	5	3	3	53(71.62)
S	1	-	-	1	1	-	-	-	-	-	-	-	4	1	-	1	4	1	13(17.57)
Total	2	1	-	3	2	2	3	3	3	2	6	8	9	5	5	8	7	4	74(100)
%	2.70	1.35	0	4.05	2.70	2.70	4.05	4.05	4.05	2.70	8.1	10.8	12.5	6.75	6.75	10.80	9.45	5.40	100

Legend: N – North; NE – Northeast; SW – Southwest; SE – Southeast; S – South

Table 2. Production regarding secondary nursing education by area of knowledge and region

Area of knowledge	N	NE	SW	SE	S	Total(%)
Nursing	0	5	0	31	4	40(54.05)
Education	0	1	1	9	3	14(18.91)
Nursing, Nursing education, Planning and educational evaluation	0	0	0	1	0	1(1.35)
Public healthcare nursing	0	1	0	2	0	3(4.05)
Human sciences/ Education/Specific topics and Education	0	0	0	1	0	1(1.35)
Healthcare sciences/nursing	0	0	0	1	0	1(1.35)
Psychiatric nursing	0	0	0	1	0	1(1.35)
Evaluation Systems, Establish plans and Educational programs, Education	0	0	0	0	1	1(1.35)
Healthcare	0	0	0	0	1	1(1.35)
Collective health	0	0	0	3	0	3(4.05)
Healthcare sciences/ Education/Nursing/ Teaching	0	0	0	1	0	1(1.35)
Healthcare sciences/nursing, Interdisciplinary	0	0	0	1	0	1(1.35)
Healthcare sciences	0	0	0	1	2	3(4.05)
Multidisciplinary	0	0	0	1	0	1(1.35)
Education, Nursing	0	0	0	0	1	1(1.35)
Healthcare sciences/ Teaching	0	0	0	1	0	1(1.35)
Total	0	7	1	53	13	74(100)

Legend: N – North; NE – Northeast; SW – Southwest; SE – Southeast; S – South

Table 3. Production regarding secondary nursing education by year

	N n(%)	NE n(%)	SW n(%)	SE n(%)	S n(%)	Total n(%)
Ph.D.	0(0)	0(0)	0(0)	5(100)	0(0)	5(6.76)
Academic master degree	0(0)	7(11.11)	1(1.59)	44(69.84)	11(17.46)	63(85.14)
Professional master degree	0(0)	0(0)	0(0)	4(66.67)	2(33.33)	6(8.10)
Total	0(0)	7(9.46)	1(1.35)	53(71.62)	13(17.57)	74(100)

Legend: N – North; NE – Northeast; SW – Southwest; SE – Southeast; S – South

only 6.76% (5) of the studies and all of them were submitted in graduate programs of the Southeast region, in the area of knowledge of nursing, education or others.

The analysis of contents of the titles and objectives contained in the abstracts permitted to built the thematic units denominated: learning-teaching process, 78.38% (58) of the studies; curricular directive, 12.16% (9) and management aspects of the schools, 9.46% (7).

Discussion

The fact that the publications are concentrated in the Southeast region is directly related to the concentration of professionals by region, as this region concentrates the largest number of nursing professionals (50.99%) and secondary nursing courses, of which 57.43% are nursing technicians and 59.28% are nursing assistants.⁽⁷⁾

In the current scenario, this situation has been confirmed as per the data from the Nursing Portal,⁽¹⁾ which indicate that 50.57 (137,451) of the Brazilian nurses are from the Southeast region, as well as 51.37% (621,068) of the secondary nursing professionals (technicians and assistants). This region featured, thus, a significant percentage of production on the theme, i.e., equivalent to 71.62% (53).

Nevertheless, there was a disagreement regarding the second pole of scientific productions on secondary nursing education, as even though the Northeast region has the largest number of nursing professionals, made of 21.15% (57,486) of nurses and 18.98% (229,458) of secondary professionals, it presented a percentage of productions of 9.46% (7), being therefore inferior to that of the South region, with 17.57% (13), although the representation of nursing professionals in this region is lower, with 16.73% (14,851) of nurses and 16.73% (202,273) of secondary nursing professionals.

It is important to highlight that “although this is a theme with little appeal among researchers, the existing production shows a greater concern with

the *curriculum* and pedagogic aspects, as well as the pedagogic practice of the teacher [...]. The research reinforces national tendencies regarding the Brazilian scientific production: a larger concentration of studies in the Southeast region of the country, the scientific leadership of the University of Sao Paulo and the undisputed concentration of scientific research in state-owned universities. The study also reveals the area of education as an area of knowledge that gains importance in terms of demand, by researchers, for their qualification in master's degrees, second only to the area of nursing itself".⁽⁹⁾

The studies developed in the 1990s focused especially on legislation and *curriculum* directives regarding secondary nursing courses: "a great concern towards legislation (professional qualification, equivalency exam, adult education, legislation, nursing workforce, *curriculum*) is perceived, even in a few publications, and the sum of these items is 31 (40.2%) which is approximately half the total sum of themes approached."⁽⁷⁾

The regulation of legislation regarding secondary nursing education has encouraged several authors to discuss the theme, approaching aspects related to legislation, profile and *curriculum* directives and the presentation of teaching proposals contemplating profile, competencies, contents, length and structure of the courses.⁽¹⁰⁾

It was inferred that, in the new millennium, the state of the literature on secondary nursing courses takes over a new investigation focus, becoming more centered in the teaching-learning process and in the management aspects of secondary nursing schools.

When considering the increase in the offer of jobs in healthcare and the need for technical workers, secondary courses must be managed with responsibility, not only in pedagogic terms, but, mainly, administrative, thus assuming a continuous pivotal role in the education of these professionals by means of the qualification of professors, evaluation of courses offered, as well as the strengthening of partnerships.⁽¹¹⁾

Regarding the teaching-learning process, "the education of professionals who are active in the Brazilian society is needed for the activity in specific

professional sectors, considering the development of the scientific spirit and reflective thought[...]. Our concerns led to a pedagogic path to face this problem: the pedagogy of competences, which aims to work on individual skills and to make them effective in real situations and in complex processes, acting with discernment".⁽¹²⁾

The management-administrative processes were correlated both to the management of material resources, physical and organizational structure, formation of the teaching corpus, and to the dynamics established with the work market by means of the quality of the courses, in favor of graduates from nursing technical schools.⁽¹³⁾

Therefore, the significance of the present study is highlighted in terms of alerting to the existing gap and the importance of a greater scientific production in nursing regarding secondary education in all of its dimensions and consequences. It is necessary to focus especially on management aspects of the schools and *curriculum* directives, so as to contribute to improve the quality of the nursing services provided.

Conclusion

This study has permitted to characterize a part of the Brazilian scientific production by nurses, generated in graduate courses in the period between 1994 and 2011. The results have indicated, during the studied period, a relative growth both in dissertations and theses produced regarding nursing technical education. Nevertheless, the detailed analysis by region has revealed that, in the Northeast, few studies have been performed on the subject, even though the region has the second largest number of these professionals in Brazil. There was also a prevalence of productions from the South and Southeast regions, thus stressing the importance of the graduate programs in these regions.

The state of the literature on secondary nursing education, by nurses, was insignificant in the North, Mid-West and Northeast regions, with 78.38% (58) approaching the teaching-learning process; 12.16%

the *curriculum* directives and 9.46% the management-administrative aspects of the schools.

Colaborations

Silva ACAB; Silva GTR; Silva RMO; Lima SV and Santana MS have contributed to the conception and project; analysis and interpretation of the data; writing of the article; critical review of its intellectual content and final approval of the version to be published.

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