

## The challenges and strategies from graduate programs innursing for the dissemination of scientific production at international journals

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In an era in which the society of the future is guided by the knowledge from the society, the role of post-graduate studies *stricto sensu* has been the key to the development of science, technology and innovation, responsible for an economic and social transformation.

What is observed in recent years is a significant growth of the Brazilian graduate system, which results the increase in the number of courses and programs, and the number of trained human resources, generating new knowledge that is disseminated through publication of articles in national and international journals.

In the last three decades there was a significant increase in the Brazilian scientific production, with an average annual growth rate of 10.7%, which is five times more than the world average. This increase raised the country in 2009 to 13<sup>th</sup> place in the ranking among countries with the highest number of scientific articles, and the 15<sup>th</sup> place in the production of reviewing articles. There is also an incentive to promote the internationalization of Brazilian science, as well as access to scientific information, with the Coordination of Improvement from Higher Education Personnel - CAPES important role in this process, especially through its Journal Portal<sup>1,2</sup>.

Despite these advances in the internationalization of Brazilian scientific production, the growth in quality of scientific studies, measured by the number of times that each study is mentioned by other scientists, has not followed the same rhythm, as the impact dropped down and Brazil went from 31<sup>st</sup> place to the 40<sup>th</sup>, respectively in 2001 and 2011.

It is pointed out as one of the aspects that contributes to this scenario the current policy that presses researchers to publish more and more, causing them to dismember dense work in articles with less impact factor, a phenomenon known as "salami" that increases number of studies, but the findings are similar and the impact decreases<sup>3,4</sup>.

In nursing, the expansion of post-graduation is been directly reflected at the increase of scientific production in the area that has nearly doubled in the three years 2010-2012, totaling 9,206 items, when compared to the 2007-2009 triennium, where 5,194 articles were published. Nevertheless, the commitment of post-graduate programs and editors from Brazilian journals resulted in the recognition of the scientific community and the national and international indexing databases.

There was an increase in the number of journals indexed at the main national and international foundations, and as a reference to the areas of Nursing and Health, apart from increased "censiométricos" indexes. It is emphasized that, currently, four nursing journals, edited in Brazil, are indexed in the Web of Science, which had WoS/JCR with impact factors equivalent to the other journals published in the United States, the international reference for this area.

Besides these, four Brazilian Nursing journals are indexed in the Scopus/SCImago database with SJR and index H. It is evident the recognition of the quality in publishing Brazilian journals in Nursing by international indexing databases and the conquest of political spaces with a higher participation of decision-making editors researchers in institutions and associations of national and international publishing. It should also be noticed that the journals of the Brazilian Nursing correspond to 15 among the 25 journals available in full text at Rev@Enf of Nursing Virtual Health Library - BVS/Enf<sup>3</sup>.

This entire process had a direct impact on the projected area at the international level, once the Brazilian Nursing occupied the 17<sup>th</sup> place ranking in Scopus/SCImago in 2005 and ascended to the 6<sup>th</sup> place in 2009, remaining in that position until 2012, surpassed by the United States of America, UK, Australia, France and Canada (3). We have also improved the ranking in terms of referred documents (17<sup>th</sup> to 6<sup>th</sup> position) and citations (22<sup>nd</sup> to 18<sup>th</sup> position), with maintenance of

the H index 50 while ascending a position (22<sup>nd</sup> to 21<sup>st</sup>), but still have to improve our indicators because they raise the self-citation (20<sup>th</sup> to 9<sup>th</sup> position) and markedly reduced the quotation document by 14.17 to 0.11 (44<sup>th</sup> to 80<sup>th</sup> position), respectively in 2005 and 2012. We have also improved the ranking in terms of referred documents (17<sup>th</sup> to 6<sup>th</sup> position) and citations (22<sup>nd</sup> to 18<sup>th</sup> position), keeping the H index in 50 while ascending one position (22<sup>nd</sup> to 21<sup>st</sup>), but still have to improve our indicators because they raise the self-citation (20<sup>th</sup> to 9<sup>th</sup> position) and markedly reduced the citation by document from 14.17 to 0.11 (44<sup>th</sup> to 80<sup>th</sup> position), respectively in 2005 and 2012.

Thus, the challenge remains to increase the production of the citations by other scientists, as well as broaden the impact of the scientific production of the Brazilian Nursing transferring the knowledge, technology and innovation for professional practice, towards the establishment of the Unified Health System - SUS with the improvement of the care and education in health, and Nursing<sup>3</sup>.

To expand the internationalization of the nursing area with dissemination of scientific production in international journals, looking up some challenging strategies to be implemented by post-graduate programs in the area:

- Enhancing a training in English language to get a fluency and to improve the writing and consolidate the process of internationalization, seeking to strengthen the initiatives of teacher and student mobility to foreign institutions with expertise in technology and innovation in health and nursing, in order to obtain a higher impact in the improvement from the knowledge of society<sup>3,5</sup>;
- Improve research training in research groups and also in disciplines with a focus on epistemology and denser theoretical and methodological approaches, as we still have a significant quantity of dissertations and theses characterized as descriptive studies and few intervention studies and clinical trials;
- Encouraging that the results of dissertations and theses to be published, but denser and innovative articles in international journals with a high impact factor, preventing its fragmentation into various items with less impact;
- Encourage the development of research guided by knowledge transferred by the practice in Nursing and Health, from the perspective of practice based in evidences<sup>3,6</sup>;
- Enhancing scientific production in line with the guidelines set by national and international funding agencies for research and policy for science, technology and innovation and the National Agenda for Priorities in Health Research<sup>3,6</sup>;

- Encourage the implementation of the most daring actions of development and entrepreneurship in generating research projects and products which may be more efficient to push forward the nursing practice and produce new ways of care and health management<sup>3,7</sup>;
- Expand the development of collaborative and multicenter researches, as well as scientific and technological production in partnership with foreign researchers, still an emerging practice in Nursing<sup>3,5</sup>.
- Increase the demand for research projects to public notices of funding, not only for national as well as international agencies, as it is observed that this strategy is still very low among nursing researchers.

Therefore, we must invest in education and a higher quality of our scientific productions to be cited by other researchers, and also to cause an impact in professional practice, which implies at relativize quantity *versus* quality, in other words, there is no point investing only in numbers, if we want the sustainability of the scientific production at the Brazilian Nursing to expand it for an international visibility. We need to invest in quality! This way, the challenges are set to postgraduate programs in the area.

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