SCIENTIFIC PRODUCTION IN BRAZILIAN NURSING: THE SEARCH FOR INTERNATIONAL IMPACT

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Science can be considered as a world of ideas in constant movement - the knowledge-production process - and aims to discover the unity in the different facets of human beings' experience in their environment. Technology, in turn, reflects and shapes the value system. Being a powerful force in the development of civilization, it expands our abilities to change the world and has its own characteristics in each culture[1]. Technology has tightened its relation with science, which makes it difficult to distinguish one from the other in certain areas. As technology affects the social and cultural system more directly than scientific research, the immediate implications of its successes and failures directly influence human activity[2].

Thus, scientific development has become a crucial factor for social well-being, to the extent that, today, the distinction between rich and poor is based on the capacity to create scientific knowledge or not. Without adequate higher education institutions in science, technology and research, involving a critical mass of experienced scientists, no country whatsoever can guarantee any actual development[3].

The explosive knowledge advance is marginalizing people who do not have a combination of research infrastructure, high-quality human resource training and universal scientific education at their disposal. The analysis of the Brazilian situation demonstrates the need to expand the bases of academic research and technological innovation and highlights the urgency of changes in the basic, secondary and higher education system, moving from an informative to a formative system, as a way of preparing persons for the labor market, which highly depends on continuous learning[1].

Knowledge production in Brazil has always been connected with the growth in graduate programs[4-9], which are the country's main way of consolidating its scientific base and training human resources that are prepared to solve regional and national problems. One important goal of the education system is to enable researchers to reach this kind of objectives. These knowledge producers should master state-of-the-art knowledge in their activity area, be able to give rise to coherent and updated questions and master methodological procedures to test them. When they structure autochthonous research lines, they become multipliers in the formation of new researchers. Their production must be endorsed by external referees from the national and international context[10].

In a recent publication by Science, which considered scientific production with international impact between 1992 and 2001, Brazil occupied the 19th place in terms of impact factor of publications indexed in the Institute for Scientific Information - ISI[11].

However, Brazil's technological innovation capacity needs to expand to be able to attend not only the population's immediate needs through appropriate technology, but also to produce goods and services that stimulate economic development[1].

The product and process of scientific activity depend on efficient communication and specialized journals are important scientific knowledge dissemination vehicles. Scientific discoveries will traditionally achieve recognition and credibility in function of their publication in renowned scientific journals.

A journal's prestige is related to the quality of its review process (peer-reviewed process); the quality of the articles it publishes (rigor and originality of the articles) and the visibility of the publication (achieved through its inclusion in databases and through its impact factor)[12].

The impact factor started to be considered as an instrument for evaluating scientific journals from the 1960's onwards, by Eugene Garfield, director of ISI at that time, as a way of classifying and assessing the journals included in the database. Only journals that are indexed in ISI are considered in the impact factor, which is calculated by dividing the number of times the articles of a journal are quoted in a specific year, in journals indexed by ISI, by the number of articles published by the journals in the two previous years[13].

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The Brazilian scientific community is strongly influenced by the impact factor of the journals it publishes in. The impact factor, Science Citation Index (SCI), of the Institute for Scientific Information's database (ISI), published by *Journal Citation Reports* (JCR), is now used by most researchers, teaching and research institutions, as well as research and graduate funding agencies, particularly Capes and CNPq[14].

ISI's basic mission is to cover the most important studies carried out on a global base. The databases indexes approximately 16 thousand journals in more than 160 knowledge areas.

These include 31 rigorously selected Nursing journals[13]. According to a study by Spanish nurses, a mere 0.44% of scientific journals in ISI is from the Nursing area, most of which are of Anglo-Saxon or North-American origin[15]. No Latin-American journal has managed to be indexed in the database yet. This reveals that scientific production in Nursing has little international visibility.

The following Nursing journals are included in ISI[16], with their respective impact factors: BIRTH-ISS PERINAT C (1.709); ADV NURS SCI (1.625); NURS OUTLOOK (1.169); NURS RES (1.129); CANCER NURS (1.101); RES NURS HEALTH (1.069); J ADV NURS (0.998); J MIDWIFERY WOM HEAL (0.890); J NURS SCHOLARSHIP (0.886); J SCHOOL HEALTH (0.868); J NURS ADMIN (0.855); NURS SCI QUART (0.815); J CLIN NURS (0.653); J PROF NURS (0.616); NURS EDUC TODAY (0.598); INT J NURS STUD (0.582); MIDWIFERY (0.523); NURS ETHICS (0.516); WESTERN J NURS RES (0.510); PUBLIC HEALTH NURS (0.505); APPL NURS RES (0.483); J PERINAT NEONAT NUR (0.467); J NURS EDUC 0.439; ARCH PSYCHIAT NURS (0.403); J NURS CARE QUAL (0.340); PERSPECT PSYCHIATR C (0.333); NURS CLIN N AM (0.281); GERIATR NURS 0.243; CIN-COMPUT INFORM NU (0.217); AM J NURS (0.193); NURS HIST REV (0.045).

In view of the current context and considering that the dissemination of research results is only one step in the knowledge production process, Brazilian Nursing needs to implement strategies with a view to human resource training, research production and dissemination. There is a need to modernize the nursing formation process; to encourage young creative talents by involving them in research and extension activities; to stimulate students to be part of research groups at universities and share a common goal, with a view to attending social demands; researchers are responsible for sending their manuscripts to peer-reviewed journals and reviewing other national publications, while journal editors should make efforts to improve editorial quality and get their journals included in national and international databases. These can be considered the challenges of contemporary Nursing.

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