

# Challenges for the advance of physical and occupational therapy research

## Desafios para o avanço da pesquisa em fisioterapia e terapia ocupacional

Scientific research in Brazil has evolved in important ways over the last 40 years, and several factors have contributed to its development, among which the consolidation of postgraduate policy in the nation's major universities should be specifically pointed out. Brazil currently occupies the 13<sup>th</sup> position in global scientific production according to the database ISI-Thompson Reuters-Web of Science, with Brazilian Health Science in 3<sup>rd</sup> place in 2008, surpassed only by the USA and England<sup>1</sup>.

Data from the two most important federal support agencies for science and technology, the National Council on Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico-CNPq)<sup>2</sup>, and the Coordination of Improvement of Higher Education Personnel (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Capes) show Capes as the most important source of funding for postgraduate scholarships in the country and abroad, whereas CNPq stands out for individual funding, acting selectively in postgraduate study. Regarding study abroad, both agencies have mainly invested in doctorate and the postdoctorate "sandwich" programs.

A variety of indicators allow us to examine the status of human resource development. Guimarães and Avellar<sup>2</sup> cite the health group as the largest postgraduate area, with 725 courses (17.7% of the total) divided as follows: 54% master's degree programs, 40% doctoral programs and 6% professional master's programs. According to quantitative indicators (i.e., the number of researchers and professors enrolled in postgraduate programs), the health area was divided into the following five subgroups in descending order: Medicine (1); Dentistry and Public Health (2); Nursing and Pharmacy (3); Physical Education and Nutrition (4) and Physical, Occupational and Speech Therapies (5).

Analysis of Physical and Occupational Therapy indicators reveals the area's development and maturity level. In 2009 there were eight master's level programs in Physical and Occupational Therapies, two doctoral level programs and no professional master's programs<sup>1</sup>; 133 professors were working in postgraduate programs, of which 79 also worked in undergraduate programs; 190 students were enrolled in master's programs and 75 in doctoral programs; 226 research groups were registered with CNPq and there were 53 productivity scholarship students<sup>11</sup>. Although Physical and Occupational Therapy are rapidly expanding, they nevertheless constitute, together with Speech Therapy, an incipient subgroup in the wider health area.

After retracing the path that has led Physical and Occupational Therapy to its current status, it is important not only to consider development indicators but to critically analyze the condition of the discipline in order to identify necessary reforms and new research directions. Thus, beyond any quantitative aspects, the quality and relevance of ongoing scientific research in these fields remains an important issue. Quality is the internal responsibility of each area and relates to the depth and breadth of solutions found for problems as well as to specific and unsolved

<sup>1</sup>Report on recommended and recognized courses. Date: 10/03/2010

<sup>11</sup>The number of students with Productivity Scholarships and Research Groups was updated in 2010

challenges. The evaluation of quality is almost always undertaken by researchers within the area in the well-known form of peer review. Relevance is related to the applicability and impact of research on society and is based on external criteria. Even imperfectly and approximately, these two parameters can be measured by publications, citations, funding, prizes, etc.

One possible method for consolidating quality and relevance in our field and for reducing its heterogeneity would be to stimulate interaction among national research groups and foster connections with foreign researchers by stimulating students' mobility during their studies. The creation of research webs regarding major themes as defined by postgraduate programs or associations of research groups registered in CNPq could strengthen new courses and foster the development of innovative projects. Integrating postdoctoral scholars into these research webs under the supervision of more experienced researchers would secure and empower the role of postdoctorate fellows in the generation of knowledge. The opportunity for postdoctorate scholars to develop projects outside their previous line of study could favor not only the host postgraduate program, but also avoid confining the researcher to the same themes he has already studied.

Finally, the process of evaluating research projects and their results must be prioritized. *Ad hoc* consultants for field journals as well as development agencies must be sufficiently qualified for decision-making and evaluations. It is necessary to create mechanisms that motivate evaluators to carefully assess the scientific-technological quality of research production, since those submitting their projects to development agencies add value to quantitative information.

There are many challenges to be faced, and these initial ideas are presented to stimulate discussion and mobilization in the search for means of overcoming hurdles to more and better research in the field of Physical and Occupational Therapy.

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