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Integrity and ethics in research and scientific communication: issues for Nursing considerations

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Integrity in research and ethics in scientific communication were two issues that were discussed at the 4th World Conference on Research Integrity (4th WCRI), by ethicists, researchers, reviewers, authors, editors, publishers of institutional scientific journals and corporate publishers, public funding agencies and private corporate funders, postgraduate students and the general public. Among the Brazilian nursing journals represented at the event were the Brazilian Journal of Nursing (REBEn), the Journal of the USP School of Nursing (REEUSP) and the Anna Nery School Journal of Nursing.

The Committee on Publication Ethics (COPE) biennially organizes the event, which was held in the city of Rio de Janeiro between 3 and 6 June 2015. This was the fourth version organized, at this time sponsored by the Federal University of Rio de Janeiro.

Over four days the participants reflected on the risks of misconduct in research and scientific communication, which affect the credibility of science worldwide, especially among policy makers, and also in society at large.

Misconduct in research has ethical, social, political and economic consequences, both for authors and for the institutions where research is developed because it generates false science[1]. Predatory periodicals, which enter the competitive publishing market in order to attract authors, institutions and uninformed research funders, offer publishing spaces at no cost or minimal cost, thereby making science increasingly vulnerable.

A study conducted in 2012[2] pointed out that according to the PubMed index, the first article to be retracted (in 1977) was published in 1973. This data marks an incipient theme in the international scientific community over the last 38 years.

Although the debate on integrity in research is relatively new in the history of scientific communication from a global perspective, there has been an increasing number of scientific articles that have been retracted due to data fabrication and falsification, manipulation of images, plagiarism, self plagiarism, duplication and error, etc.

In an analysis performed within the PubMed database of 2,047 biomedical and life sciences research articles that had been retracted, the authors [2] found that only 21.3% were retracted due to error; the majority (67.4%) were retracted due to misconduct, 43.4% due to suspected fraud or fraud, 14.2% due to duplication and 9.8% because of plagiarism. A correlation was also observed between journal impact factor and the cause of retraction. Journals with a high impact factor had more cases of retraction due to fraud or error, and those with a lower impact factor had more plagiarism and duplication.

The Website *Retraction Watch* (http://retractionwatch.com), which was created by a group of independent journalists in August 2010, has been publishing manuscripts that were retracted, either by the author themselves or by the publishing journal, which has stimulated the process of self-correction and debate about bad scientific practice. Disputes about authorship between publishers and financiers have resulted in legal action and huge-scale financial compensation, in

addition to the negative exposure of the images of people, agencies, services and governments. All of this has helped to accentuate the debate on science within public opinion.

A *survey* conducted in the USA of 1,675 reviewers of scientific journals addressed ethical issues related to conflict of interest, the protection of individuals from plagiarism, duplication of publications, unrepresentative data etc. In reviewing articles, 20% of those who participated in this survey stated that they had been faced with ethical dilemmas, the most common of which were the lack of protection of participants and total or partial plagiarism[3].

Retraction Watch (http://retractionwatch.com/category/nursing-retractions/) reported that between 2011 and 2013 ten articles related to nursing were retracted, seven of which were by the same author. The main reasons for these retractions were conflict of interest, misuse of data, plagiarism and inappropriate use of references. Compared to the other sciences, nursing is represented by a very small number of cases of this nature; however, scientific misconduct is a real risk to this science, which is still in the process of construction.

Issues related to misconduct in scientific communications seem to have only recently entered the sphere of nursing science. A search of the PubMed archive on August 3, 2015, matching the keywords 'plagiarism' and 'nursing' resulted in 99 results, the first publication being dated 1983. The recurring themes associated with misconduct were fraud by forgery or fabrication of data, plagiarism, self-plagiarism, authorship, duplicate publication and conflict of interest.

In a study published in 2014[4], the authors pointed out that within publications by postgraduate students there was falsification or fabrication of data in 4 - 17% of publications and that plagiarism amounted to 8.5 - 16.4% of the material.

One possible way to prevent plagiarism is by adopting electronic search tools that are based on similarities[5]. However, this measure is not enough in isolation to combat scientific misconduct.

The defense of a scientific culture based on good conduct implies the need to articulate the principles of honesty, reliability, independent impartiality, open communication, care and justice in relation to scientific production and communication. It is necessary to identify the risks of scientific misconduct, firstly because there is strong pressure on researchers and postgraduate students to publish more, and secondly because of the conscious or unconscious knowledge of the risks it entails. Therefore, combating poor practice requires the following action: education that is directed towards the principles of integrity in research; discussion of the topic in scientific bodies, funding agencies and postgraduate courses; greater compliance with instructions to authors to take steps to ensure integrity; greater supervision of scientific reviewers and editors in the manuscript review process; and the adoption of instruments and tools to help journals to prevent bad practices in scientific communication so that true science can be disseminated.

The importance of this issue is such that several entities, including the Brazilian Association of Scientific Editors (ABEC) and the São Paulo Research Foundation (FAPESP), have discussed it in their newsletters, debated it widely in journals, and implemented appropriate actions to deal with it. One of these important actions has been the decision by the Collaborative Institutional Training Initiative (CITI) from University of Miami, through ABEC, to make available qualifications regarding integrity in research for all levels of researchers. The 67th Brazilian Nursing Congress, which will be held in the city of São Paulo in October 2015, will feature reflective activities and discussion on this theme, with the participation of Dr. Rosemary Sadami Arai Shinkai, who is a member of the Board and who was COPE Charity Director from May 2012 to May 2015. The field of nursing needs to commit itself, together with the other scientific fields, to integrity in research, and the production of improvement, qualification and production of knowledge in this area, emphatically defending ethics and rigor in scientific research and dissemination and publication. Postgraduate programs, as well as scientific journals, should be the leaders of this process.

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