RESEARCH ASSESSMENT – NEW HORIZONS

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Research investment has been increasing each year. Governments and research support foundations have been estimated to invest around US$1.4 trillion in scientific research around the world per year[1]. Such numbers lead to important questions: where can we focus our investments? What studies can we fund? The answers for these questions are based on the metrics of scientific quality and productivity assessment, with the aim of identifying scientific researchers and projects with merit to receive such financial supports[2].

Currently, research assessment is based on the publication and citation counts, considering the impact factor (IF) of published journals and their derivatives such as the h-index. The IF is frequently used as a primary parameter to compare the scientific production of researchers and institutions; it was initially created as a tool to help librarians identifying the journals that would be acquired, but not like a measure of scientific quality of a manuscript research[3]. Investigators have documented several limitations of using this metric tool to assess the research quality. These vary from biased citations in journals to the specificity of IF proprieties of the working field, which include articles with several methods of investigation, fragility of the editorial policy that can be manipulated, absence of transparency, and public access to data used for calculating the IF[2-5].

The need of improving research assessment and criteria used by fund support agencies made that groups of researchers and scientific editors gathered to talk about alternative strategies. One of these groups, comprising editors of academic journals from the Cellular Biology area, was formed during the Annual Meeting of the American Society of Cellular Biology, in San Francisco, California, in 2012. It elaborated a series of recommendations known as San Francisco Declaration on Research Assessment (DORA), a document signed by more than 150 scientists and 75 academic organizations[2]. The recommendations of DORA are aimed at research funding agencies, academic institutions, journals, organizations that provide metrics and investigators in general. They are based on the need of eliminating the use of metrics such as IF and h-index in obtained financial supports, commitment, and investigator's promotion considerations. Also, they are based on the need of assessing the research through its merit and not through that of the journal where it was published, and on the need of capitalizing on the opportunities offered by the online publication.

Marcia McNutt, editor-in-chief from the journal *Science*, in her Editorial from November 2014, approaches and criticizes the emphasis given to literature measurements, which, in her opinion, "misrepresent the process and do not allow distinguishing qualified candidates." She also suggests that young scientists should be assessed through their availability to taking risks, ability of working together in different teams, through the resolution of complex problems with innovative and creative solutions, and also through their ethical behavior since the experiment until the publication of results[1].

Uneasiness with the current used metrics is increasingly mobilizing investigators, and alternative measurements are gaining more followers among the most well-known scientists in all areas of knowledge.

This is a new scenario where young investigators may be closer to equality of conditions with senior investigators in the evaluation of their projects, if they are able to show innovation, commitment, ability to work in groups, and ethics.

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