

Preprints in Health

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Technological advances have brought better communication, integration, organization, efficiency and productivity for humanity and, consequently, for health. Publications in scientific journals require peer-review, which is one of the most complicated, and often lengthy process, for editing scientific journals. Thus, the acceptance of so-called preprints (e-prints or e-imprime *or* working papers) has been growing in an attempt to speed up the communication and dissemination of manuscripts^{1,2}.

Preprint is a complete scientific manuscript that is made available online prior to its acceptance and official publication by a scientific journal. In other words, it is the complete text of the research work sent by the authors to the scientific journal that is publicly shared before the review by the reviewers³⁻⁵. The main destination of preprints are repositories, collection of digital documents placed on a public server to share metadata. Most preprints are given a digital object identifier (DOI) – a sequence of letters and numbers that serve to identify digital items by making files on the internet permanent^{6,7}.

Repositories such as arXiv.org (often used by mathematicians and physicists) often evaluate the manuscript quickly (sometimes less than 24 hours) to confirm that it is of scientific content. Upon confirmation, the preprint is posted on the site and anyone can access, view, comment and collaborate. Undoubtedly, the speed of dissemination makes the manuscript more visible and accessible. On the other hand, these are texts that have not undergone sophisticated review by experts and are more prone to error. Currently, besides the mentioned arXiv.org, we can highlight: bioRxiv, F1000Research, Peer J Preprints, ChemRxiv, among others^{5,6}.

In January 2018, Serghiou and Ioannidis⁷ published in the well-known JAMA, a study that analyzed all preprints deposited in the bioRxiv repository between 2013 and 2017. By Altmetric analysis (alternative method for valuing research citations aimed at a wider audience) and the CrossRef articles that were initially

deposited as preprints showed better visibility than articles that were not deposited as preprints.

The use of preprints is not new, there are reports that the National Institutes of Health, in 1961, mailed manuscripts before peer review. Some researchers are still very afraid of preprints precisely because studies have not been evaluated by experts²⁻⁴. There is also concern about “stealing” ideas before publication (known as scooping). In this matter, it should be remembered that researchers and scientists disseminate their ideas in lectures and congress presentations. In addition, repositories publish the dates of manuscript posts and the author may claim authorship. Finally, the preprint publication is an opportunity to point out flaws and strengthen arguments for improving the final article⁵⁻⁷.

For scientists who do not believe that preprints can soon dominate publications, one must remember the growth of the Open Science movement⁸. This movement aims to make scientific research more accessible to all levels of society - not just scientists. Consecrated journals such as Nature and Plos One already allow submission of manuscripts that were published as preprint. It should be remembered that the “Open Science” movement is characterized by its contribution to facilitating problem solving, making data available and allowing this information to be reused. “Open Science” and preprints have been a big discussion in academia, but there is no doubt that we will have to go through an academic cultural change. The largest universities in Brazil, such as USP, UNICAMP and UNESP, are opening their own repositories that contain data from university researchers. Are scientists ready for a non-competition science?

Preprint may be one of the keys to the democratization of science. Interaction and participation will enable more accessible scientific research, and perhaps help to reduce publishers’ monopoly. In line with this trend, from 2020 onwards, ABCS Health Sciences will accept manuscripts that were previously deposited as preprints, contributing to the long awaited “Open Science”.

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