

Open Science principles in BrJP and the state of the art in other scientific journals on pain

Princípios da Ciência Aberta no BrJP e o estado da arte de outros periódicos científicos sobre dor

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Although not recent, the principles of open science still represent a paradigm shift in scientific dissemination. The invitation of Open Science takes us from a closed publication process to a perspective of evaluation as a more transparent process, co-responsibility and the incentive to publish before assessment. Open Science's approach is based on the IDEIA principles: Impact, Diversity, Equity, Inclusion and Accessibility¹, as opposed to the closed and private publication process, with blind peer review, long waiting periods for the publication of unpublished work (around 6 to 12 months in the evaluation process), in addition to articles often being available exclusively to subscribers and/or commercialized.

Science is understood as an enterprise of humanity that cooperates through the objective study of phenomena and shares peer-reviewed results of discoveries to provide systematic reflections and the opportunity to use these results for the benefit of nature and society. Open Science adds access to research (free online access to scientific publications) by publishing raw data (transparency of data and analysis), allows discussion between authors and peers in the unblinded evaluation process and speeds up access to unpublished research by publishing on preprint platforms, with all these steps adding value to the final article published in a scientific journal.

To understand Open Science, it is necessary to go beyond its definition and objectives². The movement gained momentum internationally in 2016, as a result of programs and articulations between the scientific community, funding bodies, public policies and government strategic plans encouraging its implementation. In 2014, the European Union launched an Open Science investment program, transferring innovative ideas from laboratories to the community. The coalition of funding agencies, in 2018, launched the S Plan³, with the objective of making scientific publications resulting from research funded by public grants available on Open Access platforms by 2020, but this is not yet a reality in 2023. In an effort to foster and strengthen the movement, in 2021, the UNESCO recommendation⁴ for Open Science was approved by the governments of 193 countries. Among the recommendations is the defense of publicly funded research that respects the principles and basic values of Open Science.

The process of science transparency is also a benefit to scientific journals, but commercial interests still guide scientific dissemination. Despite the S Plan's³ incentive to progressively migrate journals from private access to open access, by 2023, of the 1600 titles published by Wiley, only eight are in open access, and of the 2200 titles published by Elsevier, only seven are in open access.

Improving transparency and access to publications on the study and treatment of pain represents a direct benefit for future generations of both clinical researchers and patients. Increasing transparency and access to publications increases the dissemination of information and scientific evidence. However, open access publications in the field of pain treatment research are rare. In 2019, a group of researchers investigated the position of pain journals on open science⁵. In general, the recommendations were still weak, and seven out of the top ten scientific journals on the topic of pain address some recommendation on Open Science editorial policies. It is interesting to note that, despite advocating open access, the article is published in private access.

In order to update the situation regarding access to scientific publications in the study and treatment of pain, a simple table investigating the data of some important journals in the same area of interest as BrJP was made. Table 1 shows that, in addition to limited access, most journals have an Article Processing Charge policy. Although equivalent on most topics, there are differences in editorial policies, such as the Journal of Pain and Symptom Management (Elsevier) describing itself as a "transformative journal" in the process of migrating to open access within the Plan S policies; the Journal of Pain (Elsevier) adopting the IDEIA principles and describing itself as a pioneer in adopting a checklist for authors, reviewers and editors with guidelines for promoting fairness and transparency; and the European Journal of Pain (Wiley), with its editorial policy encouraging data sharing. In addition to these three, Pain Medicine (Oxford Academic) also states that it accepts publications deposited in preprint repositories. Despite the non-systematic movement of large journals, there is a trend towards adaptations stimulated by international public policies. However, there are still some more conservative journals, such as Pain (Wolters Kluwer), which states on its website that it does not provide Open Science Badges.

Table 1. Journals' editorial policies in light of open science recommendations

Journals	Multilingual	Preprints	Data sharing	Author's rights/ intellectual pro- perty	Open access	APC Chargin- g a fee for publication
BrJP	Portuguese/ English	Accepts*	Encourages*	CC-BY	Yes	No
Journal of Pain	English only	Not mentioned	Encourages	CC-BY CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
Pain	English only	Not mentioned	Encourages	CC-BY CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
Journal of Pain and Symptom Management	English only	Accepts	Not mentioned	CC-BY CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
Pain Medicine	English only	Accepts	Not mentioned	CC-BY CC-BY-NC CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
Clinical Journal of Pain	English only	Not mentioned	Not mentioned	CC-BY CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
European Journal of Pain	English only	Accepts	Encourages	CC-BY CC-BY-NC-ND	Depends on the APC policy chosen by the authors	Yes
Pain research and management	Article in English, Abs- tract in French/English	Accepts	Encourages	CC-BY	Open Access	Yes

APC = Article Publishing Charge. *Updated to January/2024.

Source: data extracted from the instructions to authors on the journals' website in October/23.

Among the journals observed, only BrJP does not apply an APC policy, and it is the only one that does not involve costs for publishing the article in the journal. The cost of the publication process is usually high, and is paid by the authors or by private or governmental funding institutions. There is a tendency among APC journals to make publications available in open access, but this choice usually involves a higher cost for authors. The high APC criterion may represent a significant information bias in favor of countries with more financial/material resources. High APC values can be considered a "natural selection", impacting on the publication of scientific work by institutions and governments with fewer resources. The financial barrier (also known as a paywall) prevents access to knowledge and scientific dissemination by groups with less funding and, in some cases, double payment is applied, whereby institutions/governments finance APC fees for publication and have to pay again to provide their scientific community access to the journal. The incidence of these costs in some socio-educational realities makes the research process itself unfeasible.

In general, Open Science envisions that publications and access should be free of funding. Realistically, during the event celebrating its 25th anniversary, RedeSCIELO discussed the importance of financial resources to enable the sustainability of some journals with the publication of the *Declaração sobre o uso de Contribuições ao Custeio de Publicações* (Declaration on the use of Contributions to the Cost of Publications - CCP)⁶. In the specific case of BrJP, the authors do not pay to submit, publish or translate their articles; the costs are an investment by the SBED

(*Sociedade Brasileira para o Estudo da Dor* - Brazilian Society for the Study of Pain) for the dissemination of quality and accessible scientific information on the treatment and study of pain.

BrJP is in the process of being updated using the Open Science emblem, in partnership with and under the guidance of the Scielo Network team. Among the changes, authors must complete and submit the Open Science compliance form with the original text. In this form, authors are asked to inform: (a) whether the text is a preprint and, if so, its location; (b) whether data, program codes and other materials underlying the original text are properly cited and referenced; and, (c) whether they accept options of openness in the peer review process.

Preprints are a strategy to speed up dissemination, as they allow full original texts to be published on secure platforms that guarantee authorship, before and in parallel to submission to a journal. While the original text awaits the journal's peer reviews, it advances in its improvement through the reviews and comments received by peers directly on the preprint deposit platform. To be reliable, the platform needs to have a transparent moderation policy, offer a DOI for submitted preprints, allow changes to the preprint version, comments and community evaluation, as well as endorsement from researchers and interoperability with other services and platforms. Only submissions of work previously deposited on public server platforms that meet these characteristics of reliability and transparency will be accepted. The public platforms Preprints, Scielo Preprints and EmeRI are recommended for open discussion before approval and publication in the journal. If the article is accepted and published in BrJP, it is the

responsibility of the authors to update the registration in the preprint server, informing the full reference of the publication in the journal.

Sharing the raw data is a transparency practice and endorses the authors' results, guaranteeing to the scientific community that their raw data has the results presented. As a good practice, following Open Science to ensure security and transparency, the BrJP encourages the "sharing of data, codes, methods and other materials used and resulting from research that generally underlie the texts of articles published by journals". The BrJP is organizing the structure of its data repository, possibly together with the SciELO Data repository storage.

Peer review is considered a co-construction for the improvement of the original text. The article is a partnership between the journal, the associate editor, editor-in-charge, reviewers and authors. The merit and content of the original text is evaluated by the Editor-in-Chief, Managing Editor and at least two ad hoc evaluators/reviewers from units other than the one where the work originated. Evaluations and new versions of the article are exchanged between the Editor-in-Chief and the authors. If both parties (authors and reviewers) are interested, dialogue with the reviewers will be allowed. When approved, the name of the Editor-in-charge of the original text will be indicated and published in the final article. The BrJP encourages the publication of reviews (when both parties agree).

All these changes are recent at the BrJP and it will be a team effort to adjust the processes and adapt the journal to the Open

Science principles. We count on the partnership of all those involved in the process to be able to accompany this movement for disclosure and transparency in the scientific process of treatment and study of pain. Despite the global impact of the Open Science movement, within the scope of BrJP we can consider ourselves pioneers and highlight the partnership of the SciELO Network in this process. Quality scientific dissemination in the study and treatment of pain is still timid in the world of Open Science.

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