

Reducing the quality of our evidence base by publishing at any cost

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Over the past decade, the traditional model of publishing in the biomedical field has experienced a shift to alternative or nonconventional modes. In the vast majority of dental specialties, scientific periodicals form part of the scientific arm of a professional, clinical, or research society, which functions as an organization for the promotion of research and generation of new knowledge for the benefit of patients. These periodicals have a structured organization with a board and assign to their members the running of a journal whose subscription fee, in many cases, is part of the dues of the society. In addition to these professional society-based journals, there are professional society-independent journals. These also may have a well-structured organization with good ethical oversight. In the past, the global publishing environment functioned reasonably well, with reputable journals adhering to best ethical practice standards in accordance with the Committee on Publication Ethics (COPE).

Recently, for-profit academic publishing has emerged and proliferated in dentistry. Now, an abundance of periodicals, with little or no relevance to dentistry, host dental research in an effort to increase their scope and attract readership. These journals may rise in prominence and publication output rapidly. They include an open-access fee, which is tempting for researchers looking to publish their work as this feature promotes greater chances for dissemination of information, thereby attracting citations; open-access articles are more likely to be read and, therefore, cited,¹ in comparison with articles with open-access content limited

to an abstract or open access after an embargo time in the relevant databases.

This trend has escalated in the past few years with less reputable journals releasing many special issues on topics, assigning guest editors for these issues and soliciting invitations for article submissions, sometimes with fee reductions, thus often having special-issue editors publishing a series of papers in the issues they edit. Along with this feature, the processing times of manuscripts in these journals may be extremely short, often being only days from submission to appearance on their sites, and this casts doubt on the scrutiny of the review process. The multifaceted nature of the topics, extending from engineering to environmental sciences, poses some skepticism on the suitability and the reasons behind dental researchers choosing to submit to these journals. The authors of articles published in these predatory journals or special issues are more likely to receive a favorable evaluation of the assessment of their output when the peer reviewers lack expertise on the topic.² Thus, one can wonder if there is any study that does not get published, given that the probability of a manuscript to be rejected by the plethora of hundreds of periodicals is, essentially, low.

The Complex Publishing Environment and Its Threats

The concerns deriving from the emerging model and questions arising from the known practices until now include the following:

Assigning the editing of hundreds of special issues of a periodical to editors has the objective of generating sufficient manuscript submissions and does not serve the needs of the readership of the main journal. The guest editors may not have the previous experience, may lack a solid background in relevant ethical publication practices, and could assign board memberships and review roles without a screening from the main journal editorial board, which possesses an overview on the issue. This is in contrast to journals published by professional, scientific and research bodies, organizations, or societies. A recent report³ indicated that one of the reasons for the record high retractions seen in 2023 was the abundance of special issues edited by guest editors.

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The concept is that a parent journal, which circulates and may have achieved some bibliometric recognition, lends its impact factor to many special issues which carry the impact factor of the main journal which, however, range in different fields or subspecialties or even sciences. This is actually a golden trap for submitting authors because the impact factor of an associated journal to the one they publish will not have the visibility and circulation within the field of their chosen specialty.

Editorial processes as displayed in many of those special-issue published articles are above any level of swiftness which would be achieved in the real world. Handling is efficient, but the article reviewing process often lasts only a few days, and its integrity can be questioned.

Assigning an editor's role of hundreds of special issues to people around the world with e-mail invitations results in a dysfunctional formulation of the necessary accountability for the editorial team of the parent journal. It is not at all a given that the editorial board of the parent journal and the editor monitor the publication of articles in special issues which can reach hundreds of issues and include thousands of articles, along with their duties in the main journal. Thus, in the unfavorable event of a case of breach of scientific integrity or any misconduct, the special-issue editor is held responsible, although the responsibility and reputation of the parent journal is also at risk. An emerging concern is that, in funded studies, especially those from the public sector, taxpayer money is used to feed the scheme described above with an unpredictable outcome on the integrity of the work and validity of the results made. Good research practices can be monitored by some organizations in some countries, but the majority of funding agents from countries that lack an organized structure of funded research may find themselves investing substantial funds to publication costs in these journals. "Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices".⁴ The number of predatory journals and publishers is growing, and while steps ensuring a level of control have already been made, the issue remains because new journals are being established constantly.

A worrying secondary trend, or knock-on effect, is that the research published in these journals may disrupt the validity of reviews and meta analyses as they will

include data published in mainstream journals along with an increasing count of data published in special issues or main journals which adopt practices outside of the mainstream, as described above. It follows that any effect of the publishing process (reviewing, editorial decisions) on the validity of evidence published will have an effect on the soundness of the subsequent analyses and the validity of the conclusions drawn for clinical practice, therapeutic procedures, outcomes, and device/agent/material effectiveness.

In today's complex publishing and media environment, it can be difficult to identify conflicts of interest or financial interest and the involvement of industry in sponsoring studies appearing in special issues. In the past, firms have even proposed to undertake the editing, through their proxies, of entire special issues, and this case cannot be overruled if the decision is not made by the society or organization running the journal. The latter could actually be the missing link which will complete the picture of the increasing control of industry on scientific information; this also includes touring lecturers, organization of symposia, blogs and information released in social media and sites, and publication of semiscientific periodicals and bulletins.

We believe that the advancement of our specialty and service to the orthodontic community can be indeed materialized through various directions and routes of circulation of scientific information; however, the nucleus of any endeavor cannot be based in anything other than scientific integrity, accountability, thorough reviewing, and proper handling of the scientific data. It is the submitting authors' responsibility to secure that these elements are present in the journal they plan to host their work, and the <https://thinkchecksubmit.org/> Webpage could be found handy in this case.

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