

## The growing threat of predatory journals in orthopaedic research

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A few years ago, I wrote an editorial on the problem of predatory journals, which was a recognized, but relatively small, problem at the time. These journals have arisen through the push towards open access across science, which pushes the cost burden from the journal and its subscribers to the authors of the papers. For the unscrupulous, it can be as easy as creating a website and sending out some spam emails requesting submissions, which can result in unwitting authors paying thousands of dollars in “open access fees” for a journal with no scientific credibility. There is an important joint editorial from the major medical journal editors published recently in the *Lancet*,<sup>1</sup> and I feel it is time to revisit this issue.

This rise of predatory journals is a challenge to the credibility of scientific research, with orthopaedics being a particularly vulnerable field. These fraudulent journals exploit the pressures of career progression and the emphasis that orthopaedics places on scientific endeavour. Unscrupulous open access publishers can profit from unsuspecting researchers, eroding the trustworthiness of the scholarly record and threatening patient care.

Part of the difficulty with defining the size of the problem in orthopaedics is that predatory journals have a fairly loose definition. In addition, these publishers do their utmost to appear as genuine as possible. They are all, however, similar in deceptive practices and lack of legitimate peer review. A 2018 analysis revealed over 200 suspected predatory orthopaedic journals – nearly three times the number of legitimate journals.<sup>2</sup> Their proliferation is fuelled by an academic culture that very much values quantity over quality in publication.

The consequences of falling prey to these journals are profound. Early-career researchers are particularly susceptible. For them, association with predatory journals can result in professional discreditation, not to mention wasted time and effort. On an institutional level, universities and hospitals can also face reputational damage when publishing or citing predatory journals. For patients, the dissemination of unvetted research poses a direct risk to clinical decision-making, with inclusion in meta-analyses and evidence synthesis eventually resulting in potentially harmful clinical guidelines.

The damage caused by predatory journals extends beyond the individuals who publish in them. In orthopaedics, where evidence-based

practice has come to the fore, particularly in terms of health economics, flawed or fraudulent research, poorly designed clinical studies, or inaccurate biomechanical data all have their clear drawbacks.

What is often not talked about is the effect on the credibility of the wider open-access publishing landscape. The model was designed to democratize scientific knowledge but does not work when predatory practices exploit it for profit. Some academics and institutions now view open access journals with suspicion, despite the existence of many reputable and rigorous scientific publishers.

The problem of predatory journals cannot be fully understood without considering the academic ecosystem that has enabled their growth. The pervasive use of bibliometric indicators, such as impact factors and citation counts, and indices (e.g. H, I10) as proxies for academic excellence has created a publish-or-perish culture. This culture incentivises researchers to prioritize publication quantity, often at the expense of quality and ethical considerations. Predatory journals exploit these pressures, promising rapid publication and inflated metrics, which may appear attractive to those seeking promotion, new appointments, or funding.

At the same time, public trust in science has been shaken in recent years by the spread of misinformation and the politicization of health issues. This has been compounded by the rise of populist opinions on social media platforms and opinions with no scientific value (such as the use of bleach to treat COVID-19) gaining surprising traction. Predatory journals exacerbate this problem by disseminating low-quality or fraudulent research that is readily accessible online.

So what can we do about it? Some of these issues can be addressed, but others not so easily. For researchers evaluating the credibility of a journal independently – are they listed on reputable indices, such as PubMed, Ovid, and SciVal, before submitting a manuscript? Carefully looking at editorial policies, peer review processes, and membership in reputable organizations like the Directory of Open Access Journals or the World Association of Medical Editors can also help. Resources such as ThinkCheckSubmit.org offer practical checklists for identifying legitimate publishers. Authors should also seek guidance from experienced colleagues, mentors, or institutional librarians to navigate the complex publishing landscape. Importantly, researchers must resist the temptation to prioritize rapid publication over rigorous peer review, even when facing intense career pressures.

Things are certainly not going to get easier in this area. As more large language models are being leaned on for a variety of tasks, and they get their information from publicly available sources, it is going to be the case that the prominence of publication is going to rest more and more on discoverability rather than credibility.