

# Predatory journals

## Authors and readers beware

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**M**any academic family physicians, especially those involved in research, receive regular, frequent e-mails from medical journals requesting that they submit manuscripts or join editorial boards. In our “publish or perish” academic culture this can be tempting. Unfortunately, some authors who are not aware of predatory journals succumb to the lure of submitting work to these dubious entities, only to have their payments wasted, their valuable research published in a noncredible journal, and their work held hostage.

### What is a predatory journal?

*Predatory journals* are open-access medical journals that publish articles online with little or no peer review, low academic standards, and little credibility. They exist to publish scholarly journal articles for authors who require publications for their curricula vitae. Predatory journals profit from author fees, often from authors who cannot afford the fees required by more reputable pay-for-publication journals. This phenomenon appeared a number of years ago when journals began to charge authors a fee to publish. It was facilitated by the switch from print to Web-based publishing and the changes in revenue-generation models (such as declining pharmaceutical advertising) in print journals. One reason that reputable journals switched to a pay-for-publication model was the thought that charging subscriptions was unfair to readers from low- to middle-income countries who could not afford the subscription fees, and that research topics were therefore skewed to those of interest to readers from wealthier countries. The author fee model was supposed to address these issues, transferring publication costs from reader to author.<sup>1</sup>

However, this change has precipitated other, less desirable consequences. Numerous journals appeared throughout the early 2000s promising quick publication, high acceptance rates, and low author fees. This appealed particularly to authors from low- to middle-income countries who did not have funds to pay the higher author fees required by well-respected journals, but were under pressure from employers to publish frequently. This has resulted in large numbers of non-indexed journals with low academic standards and little or no peer review that profit handsomely from author fees.

It is estimated that by 2015 there were as many as 10000 predatory journals worldwide.<sup>2</sup> Some have similar names to established, respected journals and sometimes falsely claim to have well-known experts on their editorial boards. Their websites are sometimes unprofessional,

with grammatical and spelling mistakes, and the addresses for some are simply post office box numbers. They have high acceptance rates of submitted articles and quick publication times owing to little peer-review scrutiny. There is often no mention of author fees until after an article is accepted. Entire publishing companies have bought up other publishing companies and produced almost entirely predatory journals. An example of one such company is OMICS Publishing Group, an open-access journal publisher (and conference organizer). It buys other publishing companies and produces hundreds of low-quality online journals to benefit from author fees. In 2016, the US Federal Trade Commission filed a lawsuit against OMICS Publishing Group for “deceptive academic publishing practices,”<sup>3</sup> which is ongoing. The publishing group also hosts more than 3000 conferences of dubious quality annually, which generate 60% of its revenue, largely through pharmaceutical sponsorship and registration fees.<sup>3</sup> Authors must also be aware of predatory editing and brokering services that offer low-barrier publication in predatory journals for a fee.<sup>4,5</sup>

### Examining predatory journals

To examine the nefarious workings of some of these predatory journals, Sorokowski et al<sup>6</sup> conducted a sting operation in which a fictitious scientist with no published articles in academic journals, no citations in any database, fake credentials and university appointments, and no experience as a reviewer applied to 360 journals as an editor. She was accepted by 48 journals, 4 as Editor-in-Chief; most journals were on the Beall list of predatory journals, which will be discussed below. Some offered her the job on the condition she publish articles for a fee and some wanted her to recruit colleagues for paid submissions. She was encouraged to organize conferences (with profits to be shared) and to start new journals as a lead editor (as long as profits were split between her and the journal owner). Clearly, “scholarly” journals were a money-making endeavour for these journal owners, who cared little about quality.

There have been a number of publicized instances of people illustrating the embarrassing ease with which poor research can be published in predatory journals. Authors have submitted fake studies with obvious methodologic flaws to online journals, resulting in acceptance by many of these journals. For example, John Bohannon, a biologist and science journalist at Harvard University in Cambridge, Mass, wrote a bogus paper describing his research about a fictitious anticancer agent extracted

from lichens. He submitted versions of the paper to 304 online journals and it was accepted by more than half of them, despite the fact that the methodology was so flawed that anyone with basic knowledge of critical appraisal should have rejected it outright. Some of the journals that accepted the paper were predatory journals, but surprisingly, other journals that accepted it were from respected universities and publishers.<sup>7</sup> Examples like this bring to light the limitations of peer review to reliably screen for poor methodology and bias, which could be the subject of a separate article.

In 2008, Jeffrey Beall, Scholarly Communications Librarian and Associate Professor at the University of Colorado Denver, became aware of the growing number of these questionable journals and coined the term *predatory journal* to describe them. He created the Beall list using certain criteria to determine if a journal was a potential, possible, or probable predatory journal or publisher. Although criticized by some as being at times inaccurate and unfair, the list was considered by many authors to be a reliable way to determine if a journal was legitimate. Quite suddenly, Beall took down his blog and the Beall list in January 2017, citing a “personal decision,” although some sources say it was the result of “threats and politics.”<sup>8</sup>

### Characteristics of predatory journals

Aside from anecdotes of intentionally flawed research being accepted by scholarly journals, there has been little research into the characteristics of predatory journals and their authors. A 2015 study by Shen and Björk<sup>2</sup> examined the characteristics of articles published in predatory journals, randomly choosing 613 journals from the Beall list. Forty-five percent of the journals originated in Asia and Africa (27% in India alone) and 25% in North America and Europe; more than three-quarters of the authors were from Asia and Africa. The average author fee was \$178 (US), whereas fees from reputable open-access journals can be up to several thousand dollars. The average time from submission to publication for journals of all disciplines was 2.7 months, which is substantially less than the more than 12 months for other open-access journals, which have more rigorous peer-review processes.<sup>9</sup>

A more recent article by Moher et al, published in 2017, disputes the view that most authors published in these journals come from less developed countries.<sup>10</sup> This study examined nearly 2000 articles in more than 200 journals thought to be predatory according to the Beall list and found that more than half of the authors came from middle- or high-income countries. Moher et al surmise that this could be because of their sampling strategy; however, it is possible that more and more developed-world authors are lured into publishing with predatory journals. The study authors point out the shoddy research methodology and lack of peer review, and state that the practice of publishing in predatory journals is unethical, as study participants

falsely believed they were contributing to a valuable body of research. In addition, the study authors believe that poorly conducted research is a waste of funding money. They warn that unless the supply of research articles to these journals is curtailed, we will see an erosion of good-quality research.

### Effect on family medicine?

Of interest, according to an updated archive of the Beall list,<sup>11</sup> there do not appear to be any predatory family medicine journals. This is perhaps because family medicine does not exist as a specialty in many countries, especially in Africa and Asia, from where most predatory journals arise. A search of the medical literature does not yield any articles on the effect of predatory journals on academic family doctors specifically, other than mentioning the risk of an author unknowingly submitting valuable research to a predatory journal, paying the fee, having their work wasted in a noncredible journal, and being unable to publish it elsewhere.

Nevertheless, as readers and as authors, we need to recognize predatory journals to avoid them. Websites are useful for this purpose (eg, [thinkchecksubmit.org](http://thinkchecksubmit.org) and <http://guides.library.queensu.ca/deceptive-pubs-conf>). When considering where to publish, we should check all potential journals for a clear peer-review process, as well as membership in the Open Access Scholarly Publishers Association. Journal websites should be scrutinized for grammatical and spelling mistakes, descriptions of a thorough peer-review process, author fees, and authentic addresses and editorial boards. We can also use the Journal Blacklist created by Cabells International, a well-regarded publisher of a long-standing journal directory that uses certain criteria to ascertain whether a journal might be predatory, much like Jeffrey Beall did.<sup>12</sup> The World Association of Medical Editors suggests using the Directory of Open Access Journals, for which journals must meet certain standards to be included.<sup>13</sup> We are very lucky in Canada that *Canadian Family Physician* remains an open-access, peer-reviewed journal that does not charge author fees, where authors at different career stages have a chance to be published and exposed to a national and international audience.

### Conclusion

The current academic culture of “publish or perish” and the author fee model of article submission have contributed to the current situation. Hopefully the move of credible journals to waive author fees for those from low- and middle-income countries will improve opportunities for these authors and reduce the number of predatory journals. In the meantime, we should all boycott predatory journals, both as readers and as authors. 

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**Competing interests**

None declared

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