Solicitation for article submission by electronic journals

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ABSTRACT

The business model, editorial policies, and content quality vary significantly in online medical journals. Some online journals have been labeled as *predatory* journals because their main effort involves collecting article processing charges with little interest in content, peer review, or manuscript presentation. Some of these journals send frequent email solicitations for submissions. One author affiliated with a department of internal medicine collected all email requests for submissions to online journals over a 6-month period. These emails included 210 unique journal names that covered over 40 medical fields and requested 15 different article types. Most of these journals were not listed in PubMed or the Directory of Open Access Journals. One hundred and eighty two were on Beall's list of predatory journals. The median article processing charge was \$1035. Faculty and trainees at medical schools receive multiple requests for submissions, but it is difficult to determine the quality of the journal sending these requests. At a minimum, a journal should be listed in the Directory of Open Access Journals and have very clear editorial and publication policies.

KEYWORDS Internet; medical journals; open access; publication costs; scientific publishing

More than 5600 journals are indexed in MEDLINE, an important database for medical journals.¹ Open access journals are listed in an online directory named the Directory of Open Access Journals (DOAJ), which is maintained by the Infrastructure Services for Open Access (IS4OA) and currently includes 11,115 journals.^{2,3} Well-established journals usually have websites that post the contents of the current issue, maintain archives, and often offer additional clinical/educational activities. Some journals use websites exclusively to offer content to readers and libraries. Almost all journals publishing articles related to medical fields make use of an electronic submission and tracking system. Faculty and trainees in medical schools, including students and residents, frequently receive invitations to submit articles. Many of these invitations or the instructions on the associated website include expectations for article processing charges to support the journal's work. Some of these journals are high-quality peer-reviewed journals that provide important information. However, some of these journals are business enterprises with a limited interest in scientific content or quality and are referred to as *predatory journals*. Jeffrey Beall developed criteria for identifying predatory journals and until 2017

provided an extensive list of these journals and/or publishers.⁴ Several tools have been developed using a range of criteria to evaluate journals, which are potentially helpful in the evaluation of the quality of a journal in question.^{5,6} We reviewed the electronic submission requests received by a faculty member in the Department of Internal Medicine at Texas Tech University Health Sciences Center in Lubbock, Texas, to determine the characteristics of these electronic journals and their publication costs.

METHODS

One author (KN) retained all emails received between April 4, 2017, and October 9, 2017, that invited him to submit an article to an electronic journal. Each website was reviewed to determine whether or not the journal had an association with a medical organization or a medical publisher, the primary subject focus of the journal, the types of articles published, the first year the journal had publications, and the number of articles published in 2017 through September 2017. In addition, the website and other online resources were reviewed to determine whether or not the journal was listed in PubMed or PubMed

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Central, in the DOAJ, and/or in Beall's predatory journal list and to record publication fees. We did not review content, citations related to the articles, or the reported impact factors of these journals.

RESULTS

This faculty member received 210 invitations during a 188-day period (Table 1). This number does not include duplicate invitations. Most solicitations indicated that the article type could include short commentaries, case reports, review articles, or original articles with data. Often the email referred to a prior publication by the faculty member and encouraged an update or a short commentary related to this publication. The article processing fee ranged from \$0 to \$3862. Many of these electronic publishers had only a few articles posted on the website in 2017, and very few were listed in the DOAJ. We also reviewed the characteristics of journals that published more than 100 articles during 2017 that were soliciting more submissions (Table 2). Most of the journals in Table 2 were listed in PubMed and had significant publication charges.

Table 1. Internet invitations for article submission

Journal parameter	Numerical summary
Unique journal associations or publishers	62
Unique journal names	210
Medical fields ^a	40
Article types ^b	15
Year first published	1939–2017
Number of articles published in 2017	
Median	5
Quartile 1–3	0–17
Min–Max	0–2000
PubMed	
Yes	16
Selected citations only	35
No	153
Not reported	7
Journals in the DOAJ	14
Journals on Beall's list of predatory journals	182
Publication charges	
Median	\$1035
Quartile 1–3	\$742–\$1800
Min–Max	\$0–\$3862

^aMedical field examples: internal medicine, emergency medicine, surgery, etc.
^bArticle type examples: commentary, editorials, case reports, reviews, etc.
DOAJ indicates Directory of Open Access Journals.

DISCUSSION

This faculty member received multiple solicitations through email for article submissions to online journals. Most of these journals were not listed in the DOAJ but were listed on Beall's so-called predatory journal list. Making a decision about submitting articles to any particular website becomes difficult and leads to several questions. (1) How can the individual author evaluate the quality of multiple websites hosting electronic journals? (2) Should there be universal standards for all electronic websites for medical publishing? If so, who would develop and maintain the standards? (3) Is it possible to determine which site is completely fraudulent? (4) How can residency and fellowship programs or tenure and promotion committees evaluate publications on multiple electronic websites when considering applicants?

Shen and Bjork studied the growth of online predatory journals from 2010 to 2014 using a sample selected from Beall's list.⁷ The number of articles published in these journals increased from 53,020 in 2010 to an estimated 420,020 in 2014; the total number of active journals increased from 1800 in 2010 to approximately 8000 in 2014. The average number of articles per journal per year was 53 in 2012. The average article processing charges weighted for all published articles (rather than for each journal) was \$178. The median publication time in months was 2.7 (interquartile range 2.0–4.2). Publishers with 10 to 99 journals dominated this market in 2014.

Do the open access journals significantly differ from the conventional subscription journals in terms of quality of content? Bjork and Solomon studied the scientific impact of open access journals compared to subscription journals using the citation rate as a metric for quality and impact.⁸ The open access journals were identified in the DOAJ; the impact factors were calculated from information available in the Journal Citation Reports 2010 and Scopus. The average citation rate was approximately 30% higher for subscription journals. However, after adjusting for discipline, the age of the journal, and the location of the publisher, these differences became much smaller. The 2-year citation rate average was 2.81 ± 3.31 for subscription journals and 2.04 ± 2.28 for open access journals. These results indicate that the average journal article has a relatively low citation rate and that there is little difference between open access journals and subscription journals. These results would suggest that the scientific quality of open access journals is comparable to the quality of subscription journals. Quality and utility also depend on peer review, article editing and formatting, and the practical operation of the electronic journal website, but these factors are more difficult to evaluate.

Bjork also has studied the longitudinal growth of so-called "mega-journals."⁹ These journals have the following characteristics: (1) a big publishing volume; (2) review based on scientific soundness (and not perceived importance); (3) a broad subject area; (4) fully open access; (5) funding by

Table 2. Details of journals with >100 articles in 2017

Journal association/publisher	Journal name	Medical field	First published	Articles in 2017	PubMed	Publication cost
BioMed Central	BMC Research Notes	General	2008	420	Yes	\$1290
BMJ/British Cardiovascular Society	Heart	Cardiology	1939	~400	Yes	\$2610
Cogent Open Access	Cogent Education	General	2014	114	No	\$1350
European Scientific Institute	European Scientific Journal	General	2011	600+	Selected citations only	\$116
Frontiers Media	Frontiers in Medicine	General	2007	161	Yes	\$0–1900
Frontiers Media	Frontiers in Neuroscience	Neurology	2007	569	Yes	\$0–2490
MDPI AG	International Journal of Environmental Research and Public Health	General	2004	947	Yes	\$1657
Multidisciplinary Digital Publishing Institute	Sensors	General	2001	1930	Yes	\$1882
None	Annals of Clinical Case Reports	General	2016	155	Selected citations only	\$1800
None	International Journal of Current Research	General	2010	2000+	No	None listed
None	International Journal of Innovative Research in Medical Science	General	2016	125	No	\$170
Oxford Academic	Sleep	Somnology	1978	183	Yes	\$50
Remedy Publications	Clinics in Surgery Journal	Surgery	2017	140	No	\$1800
Scientific Research Publishing	Psychology	Psychology	2010	114	Selected citations only	\$699
Society for Science and Education UK	Advances in Social Sciences Research Journal	Social Sciences	2014	248	No	\$130
Springer International Publishing	Internal and Emergency Medicine	General	2006	152	Yes	\$3000

article processing charges. These journals do not need to restrict the number of articles published electronically or make decisions about perceived importance. For example, *Scientific Reports* published 24,077 articles in 2017, and PLOS ONE published 20,098 articles in 2017. *Medicine* converted from a subscription format to open access in 2014. The number of articles increased from 296 to 2761 between 2014 and 2017. Clearly, the number of articles published by these mega-journals is huge.

Shamseer et al studied the characteristics of so-called predatory journals, open access journals, and legitimate biomedical journals.¹⁰ They identified the following journal types: potential predatory journals based on Beall's list, presumed legitimate fully open access journals listed in PubMed Central, and presumed legitimate subscription-based (including hybrid) journals identified in the Abridged Index Medicus. They found that predatory journals frequently had spelling mistakes and distorted images on their home pages, reported bogus impact factor metrics, and had editorial boards that were potentially unverifiable. They

also frequently had mixed content in their journals covering a wide range of disciplines. They had relatively low charges with median publication fees of \$100 compared to \$1865 and \$3000 for the other two categories of journals. Consequently, the home page and the article processing fee can help the potential author identify predatory journals.

Open access journals now provide significant amounts of information on the Internet. They have increased the opportunity for potential authors to publish scholarly work. However, the size of this activity presents problems to both readers and authors. The potential author must consider each submission very carefully. Important factors include the reputation of the journal, the content area of the journal, and the potential readership for the article. Other important factors include the peer review process, editorial policies, and editing activities to create the best possible document. Most authors do not have the background, information, or time available to evaluate multiple websites critically. One initial step could be limiting submissions to journals listed in the DOAJ.

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Avocations

Dandelion silhouette. Copyright © Rolando M. Solis, MD (rmsolis@mac.com), an interventional cardiologist at The Texas Heart Hospital Baylor Plano, The Texas Heart Hospital Baylor Denton, Baylor University Medical Center, and Baylor Heart and Vascular Hospital.