2019

Selecting a Journal for Publication: Criteria to Consider

Amy M. Suiter
Washington University School of Medicine in St. Louis

Cathy C. Sarli
Washington University School of Medicine in St. Louis

Don't Be a Victim of Predatory Publishers!

Selecting a Journal for Publication: Criteria to Consider

by Amy M. Suiter, MLS & Cathy C. Sarli, MLS

Publishing in journals that are not reputable can diminish the credibility of your research and limit your career.

Introduction

Digital technologies and new publishing models such as Open Access coupled with the democratization of publishing worldwide has transformed the traditional print journal model for communication and dissemination of knowledge. In spite of the vast array of publishing opportunities in today's digital world that allow authors to reach a wider audience, authors face an unprecedented challenge when selecting a journal to publish their research. There are now over 80,000 academic, peer-reviewed English language journals currently active as of July 2019 and 30,000 of these journals are classified under Medicine and Health.[1]

In light of the proliferation of journals, some journals have come under increased scrutiny recently with terms such as questionable, predatory, pseudo, deceptive, unscrupulous, illegitimate, or dishonest, used to describe these journals.[2-3] Per Cobey,[4] et al., there is no standardized definition of questionable journals but the International Committee of Medical Journal Editors (ICMJE) offers a description: "These journals (predatory or pseudo-journals) accept and publish almost all submissions and charge article processing (or publication) fees, often informing authors about this after a paper's acceptance for publication. They often claim to perform peer review but do not and may purposefully use names similar to well established journals."[5] Additional characteristics of these journals described by Masten and Ashcraft include offering no services such as "expert peer-review, editing, archiving, indexing, and promising almost instant publication."[6] Shamseer, et al., note 13 salient characteristics of potential predatory publishers such as no retraction policy, homepage language targeting authors, scope includes non-biomedical subjects alongside biomedical topics, manuscript submission via email, and others.[7]

In December 2016, the International Committee of Medical Journal Editors (ICMJE) announced revised recommendations for authors: "A growing number of entities are advertising themselves as 'medical journals' yet do not function as such (predatory journals)." The advice to authors was: "Authors have a responsibility to evaluate the integrity, history, practices and reputation of the journals to which they submit manuscripts." The National Institutes of Health (NIH) issued a notice in November 2017 reporting an increase in journal articles generated with NIH-funded research published in journals or by publishers that do not follow best practices.[8] NIH issued several recommendations for authors to ensure the credibility of their research findings when publishing:

- Adhere to the principles of research integrity and publication ethics;
- Identify journals that follow best practices promoted by professional scholarly publishing organizations; and
- Avoid publishing in journals that do not have a clearly stated and rigorous peer review process.

Washington University in St. Louis
School of Medicine

Amy M. Suiter, MS, MLS, (left) and Cathy C. Sarli, MLS, AHIP, (right) are at the Bernard Becker Medical Library, Washington University School of Medicine, St. Louis, Missouri.
Contact: sarlic@wustl.edu

How can authors evaluate the integrity, history, practices and reputation of journals? There is no reliable list of good vs. bad journals, nor is there an automated decision-aid tool to use for identifying journals that are suitable for publication. We recommend that authors begin their list of potential journals by considering the journals they use for their research or clinical care. Other potential journals include journals from publications that authors cite in their research, journals they review for, and journals associated with their professional organizations. Mentors and colleagues may also be able to provide insight as to which journals are regarded as relevant for an area of research or are recommended for tenure and promotion purposes. Consultations with mentors and colleagues can be especially important for early-career authors and authors tackling a research topic outside their primary field. Other criteria to consider are noted below.

Criteria for Evaluating a Journal

Scientific Rigor

A key indicator of journal quality is the scientific rigor of the publications published in the journal. When considering publishing in a new or unfamiliar journal begin with a review of publications published over the past few years to assess details such as the purpose of the research, design and methodology, data analysis, results, and discussion, all of which can lend insight as to scientific quality. Tables and figures should be clearly marked, legible and appropriate for the data. References should be comprehensive and current. The procedures used by the journal for ensuring scientific rigor during the peer review process also lend insight as to commitment to scientific rigor. Plagiarism checks using software such as iThenticate, using different statistical testing to confirm data validity, and applying forensic tools to detect image manipulation are examples of practices that reputable journals follow to ensure scientific rigor.

Another clue as to scientific rigor is whether the journal requires use of recognized guidelines for reporting of research. Reporting guidelines help to ensure the quality of scientific research and enhance the replicability of the research. Examples of reporting guidelines are CONSORT, PRISMA, STROBE, to name a few. As of July 2019, there are over 400 reporting guidelines per Equator Network.[9] A similar requirement by journals is registration of clinical trials before the time of first patient enrollment to be considered for manuscript review. Transparency of journal practices and policies for data sharing is another factor to consider for assessing scientific rigor. Data sharing is integral for ensuring that science is transparent and reproducible, and promotes the integrity of research and fosters public trust. A recent Pew Report in 2019 found that a majority of U.S Adults (57%) trust scientific research findings more if the researchers make their data publicly available.[10]

Editorial Quality

Editorial quality noted in publications including editorials, can provide clues as to journal quality. Misspellings, grammar and punctuation errors, or lack of clarity and cohesiveness in writing is indicative of lack of editorial oversight and reviewer commitment. These clues may signal a journal that is not appropriate for publication. Titles and abstracts themselves can also be revealing as to editorial quality—a title that is not descriptive or an abstract that needs to be read more than once may be a warning sign.

Peer Review Process

Transparency as to the peer review process is a benchmark of journal quality. A reputable journal will fully disclose the peer review process including criteria used for peer review, selection of reviewers, the type of peer review, timeframes for the peer review, and how the peer review process is handled by the editorial board. Additional details such as how conflicts of interest are handled, confidentiality, and other ethical standards for peer reviewers should also be available from the journal website.

Ethics

A quality journal will include information as to issues such as plagiarism, conflicts of interest, internal review board approval, informed consent, human and animal subject research, confidentiality, fraud, salami (or segmented) publications, ghost authorship, data and image manipulation, and other ethical considerations. A journal should include information as to ethics on the journal website, what their expectations are of authors and how they address these issues. Reputable journals endorse guidelines and best practices for publishers such as the International Committee of Medical Journal Editors (ICMJE), Committee on Publication Ethics (COPE), and the World Association of Medical Editors (WAME).

Editorial Board Members

A review of the journal editorial board can reveal valuable insights as to the quality of a journal. Editorial board members should be known as established experts in the field related to the aim and scope of the journal,

affiliated with known institutions, and hold appropriate academic credentials. Contact information for editorial staff should also be available. If information is missing from the journal website or if there is no contact information for editorial board members, additional review is recommended before submitting a manuscript for peer review.

Another clue related to editorial quality is editorials authored by the Editor-in-Chief or members of the editorial board. Editorial board members from reputable journals will contribute frequent and thoughtful editorials that provide context or significance to publications for a specific issue or discuss updates in journal policies for authors and readers.

Journal Reputation/Business Model

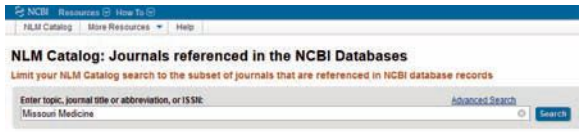
The reputation of a journal includes the publisher of the journal, the societal organization that sponsors the journal, aim and scope, mission statement, among other criteria. The publisher of a journal or the sponsoring society can lend strong credence to the quality of a journal. The aim and scope should be clearly stated and other information such as a mission statement or sponsoring organizations helps to assess the reputation of the journal. The business model of a journal should be evident and if there are fees for publication, the fees should be clearly stated on the journal website—in other words, there should be no surprise fees after submission of a manuscript for peer review.

Author Rights and Copyright

The journal policy as to author rights and copyright is another benchmark of a quality journal. Copyright is a bundle of rights that allows authors to use, disseminate, display or modify the work in any medium. Up until 20 years ago, authors routinely transferred all rights to their work to the journal publisher upon publication. Many journals allow authors generous uses of the work after publication and in some instances, will allow authors to retain full rights to the work. Authors are advised to anticipate any future re-uses of their publications before selecting a journal and signing a copyright agreement form. Some authors are required to comply with public access mandates from organizations such as the National Institutes of Health (NIH) or the National Science Foundation (NSF). If a journal does not allow for compliance with public access mandates, authors will need to consider another journal. Some journals allow oral rights to the work or reuse of a figure or table in a subsequent work, or posting of the work on a repository; others do not. Journals may also stipulate various uses based on the version of the work (pre-print, post-print, and final published version). Transparency of a journal's copyright policies for authors is indicative of a quality journal.

Figure 1. How to Check for MEDLINE® Indexing Status

1. Go to the National Library of Medicine (NLM) Catalog: Journals Referenced in the NCBI Databases (https://www.ncbi.nlm.nih.gov/nlmcatalog/journals)



National Library of Medicine (NLM)

2. Enter the journal title in search box. For this example, we are using Missouri Medicine.
3. From the results page, find and click on the title, and scroll to find "Current Indexing Status."

Missouri medicine

Author(s): **Missouri** State Medical Association
NLM Title Abbreviation: Mo Med
ISO Abbreviation: Mo Med
Title(s): **Missouri medicine**.
Other Title(s): MO MED
Missouri M.
Missouri Med
J. **Missouri** M. Ass.
J. **Missouri** M. Assoc.
Continues: **Missouri** State Medical Association. Journal ISSN 0096-7009
Publication Start Year: 1953
Frequency: Bimonthly, Sept./Oct. 2002-
Country of Publication: United States
Publisher: St. Louis.
Latest Publisher: Jefferson City Mo : **Missouri** State Medical Association
Description: v. illus., ports.
Language: English
ISSN: 0026-6620 (Print)
0026-6620 (Linking)
Coden: MIMIA2
Electronic Links: http://www.msma.org/**missouri-medicine**-library.html
https://www.ncbi.nlm.nih.gov/pmc/journals/3501/
In: MEDLINE: v63n1,Jan. 1966-
PubMed: v63n1,Jan. 1966-
Index medicus
PMC
OLDMEDLINE
Current Indexing Status: Currently indexed for MEDLINE.

National Library of Medicine (NLM)

Indexing Status

Authors want their research to be discoverable and read by others. A quality journal will be indexed by major bibliographic and citation databases such as MEDLINE®, Elsevier Scopus and EMBASE, Clarivate Analytics Web of Science, Cumulative Index for Allied and Health Literature (CINAHL), and others. MEDLINE® is produced by the National Library of Medicine (NLM) and has rigorous scientific and editorial criteria for journals selected for indexing in MEDLINE®. Among librarians at our institution, Bernard Becker Medical Library, MEDLINE® indexed journals are considered to be the premier journals in the biomedicine field and many authors rely on MEDLINE indexing status as a strong indicator of a

quality journal. In addition, MEDLINE® is a freely available citation database with no subscription required so any author can check for indexing status. As of July 2019, there are 4,995 journals currently indexed by MEDLINE® (Figure 1).

However, some journals claim to be indexed by PubMed® which can be confusing as MEDLINE® citations are found in PubMed® along with citations to full-text articles from PubMed Central® (PMC). PubMed®, MEDLINE®, and PMC® are separate entities with different purposes.

- PubMed® is a resource that aggregates citations from MEDLINE®, PMC®, and other resources from the NCBI Bookshelf.
- PMC® is a free archive of full-text journal articles.
- MEDLINE® is a journal citation database from the National Library of Medicine (NLM).

The single web interface of PubMed® blurs these distinctions, leading to confusion for authors and in some cases, publishers. Journals that claim to be indexed in PubMed® or Google Scholar are cause for concern. When it comes to selecting a journal, we encourage authors to verify the indexing status of a journal using a bibliographic and citation database rather than relying on the journal website, or check with a librarian affiliated with your institution or a local public library.

Impact Factor Scores

Authors often use various journal impact factor scores as criteria for selecting a journal. The Journal Citation Reports Journal (JCR) Impact Factor score was developed in the early 1960s for selection of journals in the Web of Science citation database and as an acquisitions tool for libraries.[11] The JCR Impact Factor score evolved over the years to be associated with identifying "high impact" journals for publication.[12] Other journal impact scores have been launched recently, including the Eigenfactor, introduced in 2008, and CiteScore, launched in 2016. Impact factor scores are calculated for indexed journals in the Web of Science and Scopus databases, and broadly, the calculations are based on the number of citations within a specific timeframe garnered by publications from journals. Some journals often note impact factor scores from sources such as a directory or a catalog which do not contain citation data. Authors should be wary of vague scores touted from non-citation data sources. A more holistic approach in selecting a journal is recommended instead of relying on impact factor scores. Per Ioannidis and Thombs, "Authors should pick target journals based on relevance and scientific rigor and quality, not spurious impact factors."[13]

Journal Operations

Journal operations include archival practices for articles using platforms such as PORTICO (https://www.portico.org/) or JSTOR (https://www.jstor.org/), whether a Digital Object Identifier (DOI) is assigned to articles or an International Standard Serial Number (ISSN) is assigned to the journal, and the publication schedule. An irregular publication schedule, excessive advertising, and missing or sporadic issues are indicative of unstable journal management. The aim and scope, editorial board, instructions for authors, and journal contact information should be available and easy to find.

Invitation to Publish a Manuscript or Submit an Abstract to a Conference

We are aware of many email solicitations for journal publication or invitations to submit an abstract for a conference, and in some cases, including invitations to speak at conferences. These emails are usually generic in nature and contain stilted or archaic language. Unrealistic promises are made such as acceptance of publication within hours and publication within days. Some emails include phrases such as "let us know how much you can afford towards the article processing charges." Table 1. Names, postal addresses and email addresses are taken from publication records found online in freely available databases and for some, the subject line of the emails match verbatim the title of a funded NIH award and the full Principal Investigator's name as noted in NIH RePORTER, (https://projectreporter.nih.gov/reporter.cfma), a freely available resource. There are instances where authors are invited to submit a publication in a journal such as those published by Annual Reviews and these invitations are usually sent by a known colleague in your field of research. If it sounds too good to be true, it usually is.

Our institution has even warned that emails from conferences or journals may be potential phishing attempts. If you are interested in a specific conference or journal but are unsure if it is genuine, apply commonly recommended techniques for handling suspicious email: don't click on any links in the email itself, rather type in the address for the conference or journal website on your browser. Then use the criteria described above to determine if the event or journal is credible.

Conclusion

Publishing in journals that are not reputable can diminish the credibility of your research, limit your career, and may result in little or no dissemination and uptake. When selecting a journal for your publication, a good

Table 1. Email Solicitation Warning Signs

- Archaic salutation
- Hyperbolic language in email
- Poor grammar or misspellings
- Excessive use of exclamation marks
- Promises of swift review or immediate conference abstract acceptance
- Journal aim and scope and conference topic is not germane to your area of research
- The publisher or conference organizer is unfamiliar
- Journal or conference title is similar to an established journal or conference
- The publisher icon/logo is similar to an established journal
- No credentials for the editor, editorial staff, and/or editorial board members
- Indexing status for the journal is noted as PubMed® or Google Scholar or a directory
- Vague impact score for the journal or claims that the journal is high impact
- Inappropriate images or ads/animations on website
- Inconsistent publication or conference history/schedule
- No ISSN for the journal
- No DOI for the publications
- Request for fees upfront or waiver of all fees

starting point are the journals that you, your colleagues, and mentors use for research and clinical care. The next step is to review publications in the journal you are considering to assess the scientific rigor and editorial quality of the publications. Transparency from the journal as to its aim and scope, the editorial board, indexing status, the peer review process, reputation, and policies for authors are among the key indicators of quality journals. These criteria can help identify quality journals suitable for publication. Two resources with additional guidance we recommend are: Think. Check. Submit. (https://thinkchecksubmit.org/) and Principles of Transparency and Best Practice in Scholarly Publishing from the Open Access Scholarly Publishers Association (https://oaspa.org/principles-of-transparency-and-best-practice-in-scholarly-publishing/). Another option for authors is to consult with librarians affiliated with your institution or a local public library. Librarians are well-suited to provide guidance in helping authors with selecting quality journals to consider for publication. While it involves some effort, performing due diligence in your evaluation of the integrity, history, practices, and reputation of a journal before submitting a manuscript will help ensure that your work gets the readership it deserves.

References

1. Ulrich's Web Global Serials Directory. ProQuest. Ulrich's Web Global Serials Directory. ProQuest; 2013. Accessed August 5, 2019.
2. Beall J. Predatory publishers are corrupting open access. Nature. September 12, 2012. https://www.nature.com/news/predatory-publishers-are-corrupting-open-access-1.11385. Accessed August 5, 2019.
3. Lalu MM, Shamseer L, Cobey K, Moher D. How stakeholders can respond to the rise of predatory journals. Nature Human Behaviour. 2017:1; pages 852–855.
4. Cobey KD, Lalu MM, Skidmore B, Ahmadzai N, Grudniewicz A, Moher D. What is a predatory journal? A scoping review. Version 2. F1000Res. 2018 Jul 4 [revised 2018 Aug 23];7:1001. doi: 10.12688/f1000research.15256.2.
5. International Committee of Medical Journal Editors (ICMJE). Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals. Updated December 2018. http://www.icmje.org/icmje-recommendations.pdf. Accessed August 5, 2019.
6. Masten Y, Ashcraft A. Due diligence in the open-access explosion era: choosing a reputable journal for publication. FEMS Microbiol Lett. 2017 Nov 15;364(21). doi: 10.1093/femsle/fnx206.
7. Shamseer L, Moher D, Maduekwe O, Turner L, Barbour V, Burch R, Clark J, Galipeau J, Roberts J, Shea BJ. Potential predatory and legitimate biomedical journals: can you tell the difference? A cross-sectional comparison. BMC Med. 2017 Mar 16;15(1):28. doi: 10.1186/s12916-017-0785-9.
8. National Institutes of Health. Statement on Article Publication Resulting from NIH Funded Research. NOT-OD-18-011. November 3, 2017. https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-011.html. Accessed August 5, 2019.
9. Enhancing the Quality and Transparency of Health Research (Equator). Reporting Guidelines. https://www.equator-network.org/reporting-guidelines/. Accessed August 5, 2019.
10. Funk C, Jefferson M, Kennedy B, Johnson C. Trust and mistrust in Americans' views of scientific experts. Pew Research Center, 2019. https://www.pewresearch.org/science/wp-content/uploads/sites/16/2019/08/PS_08.02.19_trust.in_.scientists_FULLREPORT.pdf. Accessed August 8, 2019.
11. Garfield E. The Agony and the Ecstasy—The History and Meaning of the Journal Impact Factor Paper presented at: International Congress on Peer Review and Biomedical Publication, 2005; Chicago, IL.
12. Alberts B. Impact factor distortions. Science. 2013;340(6134):787.
13. Ioannidis JPA, Thombs BD. A user's guide to inflated and manipulated impact factors. Eur J Clin Invest. 2019 Sep;49(9):e13151. doi: 10.1111/eci.13151.

Disclosure

Cathy C. Sarli is a reviewer for the NIH National Library of Medicine PubMed Central (PMC) Journal Review Program. The views expressed here are personal and do not necessarily reflect the views of the National Library of Medicine, the National Institutes of Health, or the U.S. Department of Health and Human Services.

Acknowledgment

The authors thank Robert Engeszer and Mychal Voorhees for their review of the work.

MM