

EDITORIAL

Predatory journals and their identification

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INTRODUCTION

“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 editorial/publishing best practices, lack of transparency, and/or the use of coercive and indiscriminate solicitation practices.”¹. An international group of researchers, journal editors, sponsors, legislators, representatives of academic institutions and societies developed the term for journals with no quality in their processes and named them “predatory magazines or publishers”, “publisher or journal predatory”.

Predatory journals are a global threat, because they copy manuscripts for publication for fees, without performing the promised quality controls. Naive readers are not the only victims, though novice researchers have also been tricked into submitting their manuscripts to these types of journals². The influx of predatory publications, together with the substantial increase in the number of this type of journals represents a risk to academic communication^{3,4}.

One of the limitations of predatory journals is the fact that they lack peer reviews and rigorous evaluation, leading to lack of quality, and very often they are not able to provide any proof of indexation. However, authors make payments for manuscript processing. The absence of quality control, the inability to disseminate research effectively and, as well as the absence of transparency, compromise the reliability of the manuscripts disseminated by these publishers⁵.

A *sine qua non* condition to consider that a journal has scientific value is the fact of being subjected to peer review by experts¹. This generates a high degree of trust for writers and readers. The reviewers analyse the re-

search methodology used in the elaboration of each submitted manuscript and make suggestions to improve and optimize the quality of what is accepted for publication^{6,7}. These can be performed by direct review or through the Open Journal Systems (OJS), issuing a result of the evaluation, which implies publication without modifications, acceptance of the article with modifications or rejection.

Synthetically, Shamseer et al. describe the following characteristics of predatory journals⁸: 1. actively solicit manuscripts, while legitimate journals do not regularly request manuscript submissions by e-mail; 2. most pages of “predatory” journals contain spelling errors (66%) and distorted, unauthorised images (63%); 3. they have similar or equal titles with other journals, supposedly legitimate; 4. they provide a false measurement of impact; 5. they announce names of fake reviewers, whose affiliation with the journal was not verified; 6. they promise a quick review, which they do not perform; 7. the ‘predatory’ journals charge a considerably lower publication fee (median \$100 USD), or cultivate information about the charges for processing articles until after the author has finished publication. It is typical for these publishers to carry out intense promotional campaigns requesting articles from authors, usually by e-mail and with e-mails sent from non-professional or academic addresses. They show interest in publishing articles on a greater number of topics, broad and heterogeneous, than “legitimate” journals. Considering the methods for the processing of the manuscript, a large number of “legitimate” journals manage the process through an electronic system called “open journal system”. However, there are other “legitimate journals” that do it through e-mail, they lack a description and transparency regarding the phases through which the handling of the man-

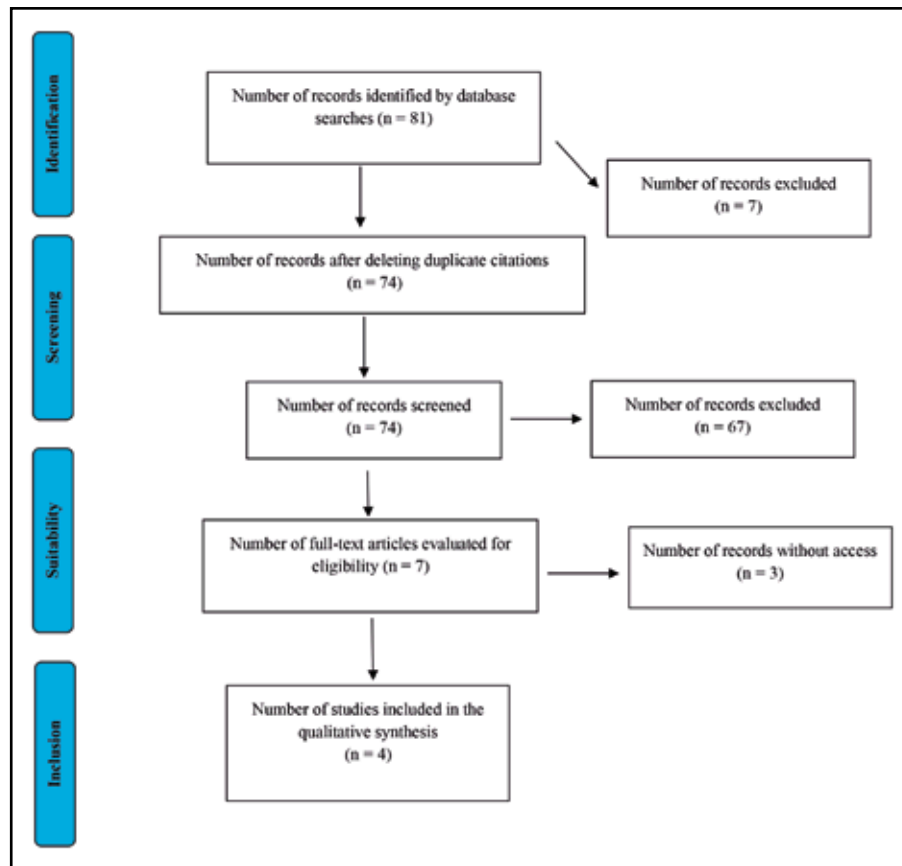


Figure 1. Flowchart and the choice of articles (PRISMA Flowchart).

uscript passes. There is no institution or organization associated with the journal. Their membership in the Directory of Open Access Journals (DOAJ), the Publication Ethics Committee (COPE), the Association of Open Access Academic Publishers (OASPA), or the International Association of Scientific, Technical and Medical Publishers (STM) should be verified. They do not follow accepted standards of transparency or best academic publishing policies such as Principles of Transparency and Best Practice in Scholarly Publishing⁸.

LITERATURE DATA

Considering the subject matter, it was decided to search the literature for identifying the incidence and the characteristics of predatory journals, following the guidelines of the PRISMA declaration for the correct realization of the systematic review⁹⁻¹¹ (Figure 1). The search was conducted from January 2016 to December 2021 in PubMed, Elsevier, SciELO and Google Scholar databases. The combination of terms that yielded the best results in the search

Table 1. Distribution of the articles included in the review.

Database	Term	Number of articles	Number of deleted articles	Number of selected articles	Accessed
PubMed	"predatory journal and systematic review"	16	14	2 (1 no access)	1
SciELO	"predatory journals"	21	21	0	1
Google Scholar	"predatory journals" and "systematic review"	28	28	0	0
Elsevier	"predatory journals" and "systematic review"	16	11	4 (1 no access)	3
Total		81	74	6	4

engines was “predatory journals”, “predatory journal and systematic review”.

Before proceeding to the selection of articles, the inclusion and exclusion criteria were defined. We included articles, systematic reviews on predatory journals, written in Spanish or English language, published between 2016 and 2021 and for which we had access to the full text. We excluded those articles with a different design than the systematic review, in languages other than English or Spanish and those with no access permission.

After applying the inclusion and exclusion criteria, elimination of duplicates, from a total of 81 identified articles (Table 1), only 4 remained for the evaluation.

Sarfraz et al.¹² published a literature review in 2020 on predatory journals, in which they analyse the concept and criteria of these types of journals. The systematic literature search was carried out in October 2019 in the Web of Science, ERIC (Educational Resources Information Center) and LISTA (Abstracts of Library, Information Sciences and Technology) databases, without using the PRISMA guidelines. Empirical research with relevance to predatory journals was established as eligibility criteria, peer-reviewed and published in the NLM database and available in English. Their synthesis included four themes of major concern when evaluating a scientific magazine: factors related to the journal, academic and professional, dissemination and personal. The authors concluded that there is a lack of a unique definition for predatory journals, the researchers should have clear criteria for identifying these pseudo-journals. The editors should be more transparent when presenting the journal's structure and publication policies, and the indexing and reposition databases should be available publicly. Nonetheless, they consider that the academic and research community should review their criteria and recognize high-quality journals, an important step in limiting the number and the influence of predatory journals.

Considering the lack of clear identifying criteria for the predatory journals, Cukier et al.¹³ conducted a literature review for evaluating the existing checklists used to detect potential predatory biomedical journals. They defined the checklist as “a tool whose purpose is to detect a potential predatory journal and the instructions are in point form / bullet form / tabular format / listed items”¹³. The literature search, according to PRISMA guidelines, included MEDLINE, Embase, PsycINFO, ERIC, Web of Science and Library, and Information Science & Technology Abstracts (January 2012 to November 2018) databases; university library websites (January 2019) and YouTube (January 2019). The search was not restricted by language; however, for feasibility reasons, the authors included original studies and/or checklists developed or published in English, French or Portuguese. 93 checklists were identified, from which only 3% were assessed as evidence-based. This plethora of checklists, none of them optimal, can overwhelm the authors in their trying to protect their writing from predatory journals. In conclusion, the authors advise the readers to look for a

checklist which provides a threshold value for criteria to assess the predatory journals, and which has been elaborated using rigorous evidence; they report that only the checklist proposed by Dadkhah et al.¹⁴ follows these criteria¹³.

In the article published in 2019 in the Journal of the Medical Library Association, Ross-White et al.¹⁵ evaluated the degree to which the health and biomedical science journals and articles published by a known predatory publisher, including by the US Federal Trade Commission, are cited in systematic reviews and meta-analysis. The search was performed in Google Scholar. From the 1,000 journals found on this publisher's site, 459 covered health and biomedical science: 145 (31.6%) exist only as title and never published an article; 64 (13.9%) published at least one article with no citation by another publication; 250 (54.4%) all together published 6,302 articles with at least one citation. The authors discovered that a total of 157 systematic reviews cited an article from the predatory publisher: 16 in another predatory journal, 4 books chapters, 137 articles published by major international publishers such as Springer, Elsevier, Sage. An interesting aspect highlighted by this research was that of the 459 journals, one was indexed in MEDLINE, 7 in Embase and 2 in CINAHL (an EBSCO database).

Looking at all the findings related by Ross-White et al.¹⁵, one can realise that there is always a risk of including in the references an article published by a predatory journal. The researchers, even if they are at the beginning of their writing or are veteran and qualified publishers, must use checklists, evaluate and verify themselves each journal in which they want to publish or want to cite.

Mills et al.¹⁶ evaluated, through a systematic review, the factors shaping academic knowledge about publication in the so-called predatory journals, their motives, decisions and experiences. Their search followed the PRISMA guidelines and included Scopus, Web of Science, ProQuest Social Sciences databases. They concluded that the decision to submit and publish articles in predatory journals is not only due to naivety, lack of experience or understanding, but can also be influenced by a complex range of institutional and contextual factors: previous rejections, career demands (doctoral degree, college graduation, financial remuneration for writing articles, an impressive CV, career advancement), poor knowledge of this concept (according to Kurt 70% of researchers, especially from the so-called developed countries¹⁷).

HOW TO IDENTIFY A PREDATORY MAGAZINE?

Predatory publishing is a growing phenomenon that affects both bioethics and science in general. The lucrative interests that were filtered in the scientific publication have generated great erosion in the ethical and scientific trust in our days¹⁸. However, it is necessary to consider other aspects such as the rejection and the demands of some publishers

towards young authors or those who take their first steps in this field. Some scholars turn to these “unconventional” journals even knowing the challenges they face, such as language proficiency, slow publication cycles, lack of capital.

Focusing on the objective of this paper, we should point out that there is no single and infallible checklist to detect predatory journals and there are few empirical studies that explain the motivations of authors to publish in this type of journals. Even if there are authors who developed checklists to identify predatory journals, only 3% of them are evidence-based checklists¹³.

In 2012, Jeffrey Beall published four articles analysing 18 publishers, 17 of which he identified as predators¹⁹. After this finding, he developed *the Beall's list of predatory journals*. Information about potential predatory journals and publishers, hijacked journals, misleading metrics and hints about how to recognize predatory journals can be found on www.bealllist.net, an online archive version²⁰. The first list dates from 2017 and it is updated periodically by an anonymous researcher. The last update dates from December 8, 2021. For the creation of the original list, Jeffrey Beall used some criteria in order to provide a framework for analysing open-access publishers and journals: the editors and staff of the journal, the business management (lack of transparency in publishing operations), integrity, journals publication standards (ethics, copyright, etc.)²¹.

The Journal Evaluation Tool was developed in 2017 by Shilpa Rele, Marie Kennedy and Nataly Blas, and it was tested at Loyola Marymount University²². This tool has two sections: 1. the rubric guidelines which categorize each criterion in good (score of 3), fair (score of 2), poor (score of 1); 2. the scoring sheet – after completed, gives a total rating of the journal in poor (rating of 16-26; the journal meets the fewest of the evaluation criteria defined for credibility), fair (rating of 27-37; the journal meets some criteria defined and credibility) and good (rating of 38-48; the journals meets many of the criteria defined for credibility).

Take into consideration the *list developed by Shamseer et al.*⁸ in 2017, check whether the journal is *indexed by DOAJ and JCR Master List* as they claim on their websites.

Finally, one can use *Think.Check.Submit*, a website which offers clear advice about how to publish in a trusted journal (<http://thinkchecksubmit.org/>), developed and founded with the implication of different organizations, such as Asian Council of Science Editors, Association of Learned & Professional Society Publishers, BioMed Central, COPE, DOAJ, INASP, ISSN International Centre, OASPA, UKSG, Association of European Research Libraries, OAPEN Foundation, International Association of STM Publishers, Springer Nature, Ubiquity Press.

CONCLUSIONS

It is more than evident that the incursion of the commercial aspects on the scientific publication infiltrated

and eroded the ethical composure and the physical rigor of them. However, it is necessary to consider other aspects such as rejection and demands. Due to the inappropriate attitude of some publishers towards young authors, some academics turn to these “unconventional” journals even knowing the challenges they face.

There is no single, fool proof checklist, and there are few empirical studies that explain authors’ motivations for publishing in journals.

We advise the young researchers to try and publish their work in eligible, important journals even if this process may imply rejections, rewritings of their first manuscript’s forms. These processes should not lead to discouragement, but to make the young researcher ambitious to learn and develop the capacities of research, presentation and writing of their own results.

Limitations: The search was made for aspects of literature with specialized bases for health sciences, with very specific terms than the number of writings available for analysis.

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REFERENCES

1. Grudniewicz A, Moher D, Cobey KD, Bryson GL, Cukier S, Allen K, et al. Predatory magazines: no definition, no defence. *Nature*. 2019;576(7786):210-2. DOI: 10.1038/d41586-019-03759-y.
2. Moher D, Shamseer L, Cobey KD, Lalu MM, Galipeau J, Avey MT, et al. Stop this waste of people, animals and money. *Nature*. 2017;549(7670):23-5. DOI: 10.1038/549023a.
3. Cukier S, Lalu M, Bryson GL, Cobey KD, Grudniewicz A, Moher D. Definition predatory journals and responding to the threat they pose: a modified Delphi consensus process. *BMJ Open*. 2020;10:e035561. DOI: 10.1136/bmjopen-2019-035561.
4. Clark J, Smith R. Firm action needed on predatory journals. *BMJ*. 2015;350:h210. DOI: 10.1136/bmj.h210.
5. Cobey KD, Lalu MM, Skidmore B, Ahmadzai N, Grudniewicz A, Moher D. What is a predatory magazine? A scoping review. *F1000Res*. 2018;7:1001. DOI: 10.12688/f1000research.15256.2.
6. Strinzel M, Severin A, Milzow K, Egger M. Erratum for Strinzel et al., Blacklists and Whitelists To Tackle Predatory Publishing: a Cross-Sectional Comparison and Thematic Analysis. *mBio*. 2021;12(1):e03108-20. DOI: 10.1128/mBio.03108-20.
7. Arévalo JA, Saraiva R, Holguín RF. Revistas depredadoras: fraude en la ciencia. *Cuad Doc Multimed*. 2020 ;31 :1-6.
8. Shamseer L, Moher D, Maduekwe O, Turner L, Barbour V, Burch R, et al. Potential predatory and legitimate biomedical journals: can you tell the difference? A cross-sectional comparison. *BMC Med*. 2017;15(1):28. DOI: 10.1186/s12916-017-0785-9.
9. González de Dios J, Buñuel Álvarez JC, Aparicio Rodrigo M. Checklists of systematic reviews and meta-analysis: PRISMA statement. *Evid Pediatr*. 2011;7:97.

10. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Int J Surg*. 2010;8(5):336-41. DOI: 10.1016/j.ijisu.2010.02.007.
11. Hutton B, Catalá-López F, Moher D. The PRISMA statement extension for systematic reviews incorporating network meta-analysis: PRISMA-NMA. *Clin Med (Barc)*. 2016;147(6):262-6. DOI: 10.1016/j.medcli.2016.02.025.
12. Sarfraz Z, Sarfraz A, Anwer A, Nadeem Z, Bano S, Tareen S. Predatory journals: A literature review. *Pakistan Journal of Surgery & Medicine*. 2020;1(1):42-51. DOI: 10.5281/zenodo.3595029.
13. Cukier S, Helal L, Rice DB, Pupkaite J, Ahmadzai N, Wilson M, et al. Checklists to detect potential predatory biomedical journals: a systematic review. *BMC Med*. 2020;18(1):104. DOI: 10.1186/s12916-020-01566-1.
14. Dadkhah M, Bianciardi G. Ranking predatory journals: solve the problem instead of removing it! *Adv Pharm Bull*. 2016;6(1):1-4. DOI: 10.15171/apb.2016.001.
15. Ross-White A, Godfrey CM, Sears KA, Wilson R. Predatory publications in evidence syntheses. *J Med Libr Assoc*. 2019;107(1):57-61. DOI: 10.5195/jmla.2016.491.
16. Mills D, Inouye K. Problematizing 'predatory publishing': A systematic review of factors shaping publishing motives, decisions, and experiences. *Learned Publishing*. 2021;34(2):89-104. DOI: 10.1002/leap.1325.
17. Kurt S. Why do authors publish in predatory journals? *Learned Publishing*. 2018;31(2):141-7. DOI: 10.1002/leap.1150.
18. Eriksson S, Helgesson G. The false academy: predatory publishing in science and bioethics. *Med Health Care Philos*. 2017;20(2):163-70. DOI: 10.1007/s11019-016-9740-3.
19. Kendall G. Beall's legacy in the battle against predatory publishers. *Learned Publishing*. 2021;34(3):379-88. DOI: 10.1002/leap.1374.
20. Beall's List of potential predatory journals and publishers. [Internet]. Available from: <https://beallist.net/>.
21. Beall J. Criteria for determining predatory open-access publishers. 3rd edition / January 1, 2015. [Internet]. Available from: <https://web.archive.org/web/20190405020715/https://beallist.weebly.com/uploads/3/0/9/5/30958339/criteria-2015.pdf>.
22. Rele S, Kennedy M, Blas N. Journal Evaluation Tool. LMU Librarian Publications & Presentations. 2017;40. Available from: https://digitalcommons.lmu.edu/librarian_pubs/40/.

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