

# Impact of Predatory Publishing and Strategies for Publication in a Good Journal

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## Abstract

The arena of research is at an expanding pace. Due to the rise in number of researches, the acceptance rate for publication has been decreasing. This creates a lot of manuscript rejections and the researchers tends to submit their work in less known journals or publishers who offer quick publishing with a nominal publication cost. Such publishers may be predatory and can lead to loss of the research in a scientific cloud black hole, where the research is not acknowledged or identified and hence deemed to be of null value. It is therefore indispensable that every researcher, academician and educator to be aware of and be vigilant of such journals/publishers for individual work publication, peer publications or supervised publications or faculty promotions. The present review highlights important points for identification of predatory journals/publishers, guidance to avoid publishing in such journals and how to get research published in a good journal.

**Keyword:** predatory publishing, predatory journals, predatory publishers, fake journals, guidelines for publication, publication ethics, impact factor.

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## Introduction

'Predatory Journals or Publishers' are well known terminologies that we come across especially in medical education. Due to the increase in research publications and limited acceptance rate of journals, researchers tend to publish their quality research work with less recognized journals or publishers in their field<sup>1</sup>.

The name predatory first appeared in the publications following its use in 2012 by the librarian Jeffrey Beall<sup>2</sup>. His work contributed to the revelation of the exploitation of research work by the researchers targeting financial gain<sup>2</sup>. A staggering rise in predatory has been noted over the years and is at an alarming rise. An estimated tenfold rise in predatory publication has been noted over a short period of time<sup>3</sup>. Today the research is at the risk of entrapment into this spiraling phenomenon unless the researchers are vigilant.

From author's perspective, such instances occur due to many reasons such as quick acceptance of the research, for career progression in the organization and incentives, to keep abreast with the increasing research demand set by institutions/

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organizations as a part of continuous evaluations, quick open access publication, research reputation and global reach of research are the key attractions for authors to publish in such journals.<sup>1,2</sup> Also, most of the indexed/high standard journals have low acceptance rates in which they need to filter research work based on high quality, regional importance of the research topic, and also the limited number of publications the journal can accept. In such circumstances, the impact of predatory journals and publishers becomes more pronounced<sup>1,2,3,4,5</sup>.

Through this review, important points with regard to preparation of authors prior to manuscript submission, importance of checking the peer review process in a journal, features of a predatory journal or publishers and thoughtful guidelines have been enumerated to pave way for a good publication of research avoiding the research to be dumped into a predatory blackhole.

This topic will be discussed in three sections. I) Checking credibility of journals prior to manuscript submission to evaluate predatory publishing, II) Predatory publishing and Importance of peer review process in a journal, III) Predatory publishers or journals – ‘11 points’ -Features of identification, and IV) Impact of Predatory publications on Researchers and on the scientific community

### **I. Checking credibility of journals prior to manuscript submission to evaluate predatory publishing.**

Pioneering researcher Jeffrey Beall developed a comprehensive set of criteria to identify predatory journals and publishers. He diligently maintains an updated index of entities meeting these criteria, providing a valuable resource for researchers navigating the publishing landscape<sup>2</sup>.

Credible websites should be checked prior to publishing the research, whether the journal intended to publish or the publisher is listed in the predatory journal or publisher lists such as <https://beallslist.weebly.com> for blacklisted journal list<sup>2</sup>. Alternatively confirm whether the journal or publisher you intend to publish with, is listed on any of the

following websites such as Journal Citation Reports, Web of Science- Master Journal List, SCImago Journal & Country Rank, Directory of Open Access Journals (DOAJ), PubMed.

Beall's list is not completely reliable to avoid publishing in predatory journals. But it can be used as a starting point for selecting journal to submit the article<sup>5</sup>. DOAJ maintains a blacklist of journals that falsely claim inclusion in DOAJ<sup>6</sup>. Think. Check. Submit. This may provide a guide for faculties who begin to evaluate their research related publishers and helps to check the authenticity of publishers<sup>7</sup>. Beaubien and Eckard's rubric of quality indicators for journal evaluation is another excellent tool to check for probability the publisher or journal is predatory<sup>8</sup>. Check for reliable journal indexing and metrics in the websites<sup>9</sup>.

### **II. Predatory publishing and Importance of Checking Peer review process in a Journal**

Predatory journals or publishers may not follow a standard effective peer review process. The process of peer review is the basis of scientific validation of research for the novelty, lucidity and implication in the research field and scientific knowledge enhancement and hence considered to be the hallmark of a publication. Peer review should not be considered as a “barrier” towards the ultimate goal of publishing. We also have to acknowledge the fact that peer review is an imperfect process requiring improvement. An active research scholar /clinician/practitioner might not have enough spare time to respond to invited peer reviews, sometimes taking a long-time process until a manuscript is being reviewed to acceptance for publication. Despite the flaws, the benefits the process offers are unremarkable to the authors and the scientific community<sup>10</sup>.

The deficiency of a clear conceptual foundation of predatory journals confines the significance and applicability of current research on predatory journals. Certain journals are misclassified and that others function in a dark zone between deception and legitimacy. Encouraging researchers to explore the concepts of quality, transparency, and legitimacy of the peer review process ensures best pra-

ctices in academic publishing, specifically with regard to peer review as an important step towards the vision of ending such predatory publications<sup>11</sup>.

### **III. Predatory publishers or journals – ‘11 points’ -features of identification**

#### **1. Geographical distribution**

Predatory fake journals (PFJs) locations are thought to be active in 52 different countries<sup>3</sup>. Researchers trapped in predatory journals account to 146 countries<sup>6</sup>. The Top 5 countries in PFJ practice are listed as India (19, 32.2%), USA (17, 28.8%), Canada (4, 6.8%), Iran (3, 5.1%), UK, Nigeria, Bulgaria (2, 3.4%each), no details of countries stated (177, 75.0%) including Japan<sup>8</sup>. More than 52 million authors over 6 years have been enthralled by the predatory journals. The location of these publishers or journals are addressed fake and to be in major global economic sites. In reality, they are published elsewhere<sup>3,5,6,8</sup>.

#### **2. Inadequate peer review process & Fast publication**

Predatory journals or publishers may not follow a standard peer review process. The predatory journals accept publication without any standard/robust peer review process within a short period of time such as 1 day to 3 days. A standard peer review process always helps in betterment of the quality of the research published in the journal<sup>6</sup>. Ideally an article should pass through this peer review process, even if it is assigned to 2-3 cycles of external review for peers/ subject matter experts. Quick acceptance and fast publication of the submitted manuscripts due to lack of peer review system<sup>9,12</sup>. Rigorous peer review has long been the cornerstone of scholarly journal is the rigorous peer review process that it carries out. Journals or publishers which does not follow such peer review benchmark lacks crucial vetting process<sup>13</sup>. Such journals often result in a collection of flawed or non-standardized, plagiarized manuscripts. Nevertheless, researchers with good research credentials can also can also end up publishing in predatory journals through the predatory tactics like misleading name or by misguided conclusions<sup>14</sup>.

#### **3. Promotional advertisements**

They promote their journals via email communications, advertisements and social media platforms misleading authors to think it to be a credible. The scope of the journal may be wide including non-biomedical fields for some of these journals<sup>15</sup>. One can be always staying alert to the repetitive notifications inviting authors to contribute their research work. The senders of these email may have a false email contact or fake link towards the predatory website which may open or might not open to the actual web page of the journal<sup>15-17</sup>.

#### **4. Open access with low-cost publication**

The rise of open-access publishing over the past decade has coincided with a concerning increase in predatory journals. While open access holds the noble aim of democratizing biomedical research, it has unfortunately attracted actors aiming to exploit the system and bypass ethical and research standards. Predatory journals operate by targeting both unsuspecting researchers with valid work and those seeking rapid publication without rigorous peer-review<sup>18</sup>.

An open access model is portrayed, with upfront payment of publication fee in most cases which can be confused with open access fee in some journals. Some of these journals or publishers' charges low-cost publication fee, targeting researchers<sup>15</sup>. The cost of publication by these predatory journals estimates to about the average cost per publication charged by these journals estimates to about \$500–\$1000 globally<sup>19</sup>. The decision action of these journals is so quick that before the author can comprehend or identify the predatory nature, an email or a letter of acceptance or both are sent to the authors. Interestingly, the journals also charge withdrawal request fee approximating about \$500<sup>20</sup>.

#### **5. Diverse editorial board**

You may want to check the editorial board members in case of unknown journals. Predatory journals are noted to have diverse scientific editorial members, related and non-related to specialty. If one identifies a known editorial board members in

volved in the editorial board, simply mailing them to get feedback on authenticity is also a plausible. (as there are cases of fake use of renowned names in editorial board). The contact email address may be not linked to the professional journal website and may have personal email links for advertising the journal<sup>17,20,21</sup>.

## 6. Fake Indexing

Few predatory publishers/ journals have found ways to be indexed in major medical search engines by portraying research submissions by honest authors<sup>17, 21,22</sup>. Journal indexing of these journals might be highlighted in the journal website to famous and indexed search engines like PubMed, DOAJ, Web of Science<sup>21,22,23</sup>. However, if one searches in these indexed websites and browse through its details, the journals may be listed. Close resemblance to long- standing reputable or high impact factor journals to mislead the authors/researchers<sup>12,17,20</sup>. Recently, Web of science took a step ahead delisted 82 journals from its indexing list<sup>22</sup>.

## 7. Misleading names

The predatory publishers employ tactics with naming their journal non recognizably close to a legitimate, quite long standing, well established reputable journals in the field. The location of publisher is also quite misinterpreting invoking suspicion on the credibility or authenticity of these journals or publishers<sup>1,3,4</sup>. Researchers may easily fall prey to such close similarity in names. These instances mainly happen due to the lack of background work up on checking indexing bodies, publishers or editors before submission to these journals for publication<sup>23</sup>.

## 8. Lack of Best practices and editorial standards

The Predatory publishers or journals does not follow the standards of publication process that ensures the quality of research published. Various organizations like Council of Science Editors (CSE), The World Association of Medical Editors (WAME) The International Committee of Medical Journal Editors (ICMJE) and Committee on Publication Ethics

(COPE) have published best practices and standards to be followed during editorial and peer review process<sup>24-27</sup>. Some journals even cite these organizations in their websites to gain credibility. ICMJE website for instance clearly states that these data should be cross evaluated in their website for members list. However, ICMJE clarifies that it is not a completely accurate list<sup>28</sup>.

Scholarly journals would administer the following best practices to ensure standards in the articles published in their journals. Thorough Peer review process by expert panel of peer reviewers; adhering to publication ethics by establishing protocols to counter ghost authorship, research misconduct and plagiarism checks; ensuring transparency through funding disclosures, conflicts of interest and contribution to authorship; and lastly such journals are prompt in resolving errors and any ethical inconsistencies by correction or retraction of researches<sup>14</sup>.

There might be some journals that would not be completely following the aforementioned standards. However, predatory journals or publishers may completely disregard these standard practices. Through spamming researchers using fast publication, low publication cost and misguiding marketing tactics, the predatory journals are only focused on the economic benefit<sup>14,29,30</sup>.

## 9. Projecting High Impact factor

Impact factor is also not completely safe criteria to identify predatory journals because illegitimate journals can create these scores. Impact factors represent the importance of a publisher or journal and is obtained by average citations of articles published by total number of articles published. Fake journals can easily create fake impact factors and metrics<sup>6,9,15,16,21</sup>. There are certain sites that offer impact factor which the predatory journal takes advantage to lure the authors to think it is the impact factor scores from Clarivate analytics<sup>14</sup>.

## **10. Poorly maintained websites:**

The predatory journals often have poorly maintained websites and webpages, with language errors. The lack of standard guidelines or instructions to the authors with no language editing services or recommendations on such standards should also arise the need for verification of the journal to confirm its predatory nature<sup>6, 9</sup>. Some of these journals provide contact numbers or addresses in their website which may not exist or is not reliable. Researchers have to be also alerted about subscribing to such journals as there might not have an “unsubscribe” or opt out option from receiving future messages or invitations<sup>21</sup>.

## **11. Irretrievable Research data**

The manuscript data stored in so called ‘Cloud storage’ as claimed by many predatory journals/publishers, published researches may never be included in citations of future research or prospective research such as systematic reviews of the ‘internet blackhole’ where it cannot be easily identified<sup>3,5,6,8</sup>. Studies once published may not be retrievable or retractable and drained into an - ‘Internet Blackhole’ with no withdrawal process of the research. No opportunities for author to revise and improve the quality of their invaluable research due to fake peer review process or peer review process taken up by non-specialty related reviewers or reviewers out of scope of the research submission. Sometimes these manuscripts are published without author consent and in such cases, the editor may refuse to retract an article or to retract an article without charging payment<sup>17,29,30</sup>. The absence of third-party archiving in predatory journals raises red flags about their commitment to research preservation and casts a shadow on the reliability and permanence of their content<sup>21</sup>.

## **IV) Impact of Predatory publications on Researchers and on the scientific community**

### **1. Value of publication in predatory journals or Publishers**

Publication with predatory publishers or journals holds an indelible flaw in the scholarly or academic record of the researcher<sup>20</sup>. The manuscripts

submitted to these journals are not effectively scrutinized by robust peer review. Due to these reasons, noteworthy research may not be assessed by clinicians/patients. Erratically, researchers or academicians with sparse exposure to such journals or publishers that also offers high impact factor which in fact has no value, guaranteed publication of their research within a span of three days should alert the researcher to scrutinize the journal for a possible predatory publishing<sup>20</sup>. Limiting research pressure build up as well as to make the researchers aware that such publications might render no value to their research and might in addition tarnish the reputations of the researcher and the associated organization<sup>30</sup>. A study by O’Kelly et al, 2019 identified a prevalence of 6.5% publications that are open access and falls under the proposed criteria for a ‘borderline predatory journal or publisher’. Despite of this revelation, it should not be considered as a sole factor by the researcher to suspect an open access journal to be possibly predatory<sup>31</sup>.

### **2. Main targets of predatory publishers**

Young researchers are the most vulnerable group of researchers due to their inexperience, requirements, lack of time to attain credentials, promotion. This doesn’t exclude the experiences researchers at par from predatory publishing. The experienced researchers may also get into this trap<sup>31</sup>. All researchers might have experienced this new trend wherein the email inbox is flooded with intensive and continuous marketing emails. Again, their usual publication- prey tactics are employed to attract potential research publication in their journals, aiming at an ultimate focus of money mending. Academic researchers’ inboxes are often flooded with a constant stream of aggressive marketing emails. Such emails should raise alarms about likely predatory nature of the emailed publisher or journal<sup>32</sup>.

### **3. Global scientific impact of publications in predatory journals:**

The publications in the predatory journals and publishers are not well peer reviewed, rather they are usually overviewed and acceptance issued.

Hence the idea of publishing a well written article that highlights the key points of the research type, the flaws in methodology, the reproducibility of the research, the limitations, generalizability of the published information and more gets compromised<sup>33</sup>. Predatory journals are a threat to the veracity of research by adulterating the scientific literature with unreviewed research<sup>18</sup>. In addition to the published articles may not be well reviewed to derive maximum details for the global scientific community, the research itself will not have enough outreach due to the 'internet blackhole effect' and also at the same time can contribute to poor quality, plagiarized publications as well. Honest researchers are the ones most affected when they view their productiveness is listed along side unethical or improperly conducted research<sup>2</sup>.

Predatory journals distort the scientific record by flooding the internet with low-quality manuscripts produced through biased or nonexistent peer-review processes. This leads to a proliferation of errors and invalid findings, which can further infiltrate reputable journals through citations. The open-access nature of most predatory journals further amplifies their reach, potentially harming medical education, patient knowledge, and public trust in healthcare research<sup>3</sup>.

The common man, amateur medical content podcasting or publishing internet users or doctors, who relies on the 'scientific' content would be affected with adverse healthcare decisions taken based on such publications, apart from scientific misperceptions, resource wastage and scholarships offered based on these research works<sup>31,34,35</sup>.

#### 4. Database Vulnerabilities

Journals established within the last two years, if they demonstrate experience in editorial roles for established journals can possibly get indexed with PubMed. Predatory journals exploit this by misrepresenting affiliations with reputable researchers, misleading PubMed into indexing them. While National Library of Medicine (NLM) attempts additional verification before PubMed inclusion, it doesn't always cross-check names against established direc-

tories. This explains the uncanny similarity in names between predatory and legitimate journals, creating confusion and potentially securing them PubMed listing<sup>36-38</sup>.

#### 5. Predatory Rate

While numerous methods exist to identify predatory journals, discerning newly-emerged fakes or predatory journals can be undeniably challenging. The precise and universally accepted definition of a predatory journal remains elusive and continues to spark debate<sup>31</sup>. Hence eminent researchers have put forth strategic planning to follow certain criteria that may be beneficial.

The formulation of criteria is based on the researches on predatory journals and publishers that paved to develop a metric called "Predatory Rate" (PR). This metric system helps to evaluate the potential for predatory practices in journals and was suggested by Dadkhah, M., & Bianciardi, G. in 2016. This score, ranging from 0 to 1, is based on 14 criteria (Table 1), including editorial board composition, peer-review process, publishing speed, and open access policies. A score of 0 indicates low risk of predatory behavior, while a score above 0 and below 0.22 suggests questionable practices but not outright predatory behavior. A score exceeding 0.22 raises red flags, indicating a high likelihood of predatory activity<sup>39</sup>.

**Table 1:** Criteria for evaluating predatory rate of a journal by Dadkhah, M., & Bianciardi, G (2016)

Criteria Grouping	Criteria	Metric of evaluation	Scoring
<b>Section 1: Editorial</b>	1. Editor Emails	Official email is given	0
		Email service is general. Eg: xxxxx@gmail.com	1
		Not available	2
	2. Editor Affiliation	Full affiliation is present	0
		Only country name is listed	1
		Not available	2
		Editors are exclusively from certain geographical location/ country	2
	3. Editor counts / numbers	More than 7	0
		Between 5-7	1
Lower than 5		2	
<b>Section 2: Peer Review process and publishing</b>	4. Review time period	More than a month	0
		Lower than a month	1
		Lower than a week	2
	5. Unclear peer review process	No	0
		Yes	1
	6. No. of papers published in each issue	Lower than 20 papers	0
		More than 20 paper	1
7. Questionable special issue release	No	0	
	Yes	1	
<b>Section 3: Markets announcements</b>	8. Availability of journal full address in the website	Yes	0
		No	1
	9. Using bogus metric and index	No	0
		Yes	1
10. The journal sends spam emails to authors to receive papers	No	0	
	Yes	1	
<b>Section 4: Publication charges and open access policies</b>	11. Fast track publication fee	No	0
		Yes	1

The predatory rate scale covers major domain and helps in simplifying the process of identification of the predatory journal. However, this scoring has limitations such as number of papers published per issue can be more than 20 in reputable journals, special issues are also released by scholarly journals, lack of differentiation between open access fee and publication fee and some indexed journals also charges both the author for submissions and readers for access to full text versions of their articles<sup>30,31,33,38</sup>.

Recent research conducted to identify the empirical study characteristics on predatory journals from the scientific literature in healthcare. A handful of studies reported were from medicine (majority), multidisciplinary and nursing. Most of these studies claimed the articles published in the predatory journals are of lower quality than published in journals with good reputation. Articles from predatory journals were confirmed to be cited in other journals which had not been adequately peer reviewed and hence the question of credibility of the information is questionable<sup>14,39</sup>.

Nevertheless, individual efforts in preventing publication in predatory journal will exert little effect on the predatory publishing. Combined and continuous measures have to be taken to mitigate this concern<sup>39</sup>.

### **Measures to be taken to limit the diffusion of predatory publishing**

The publication pressure on academics and clinicians for higher professional categorizations, job prospectus, institutional accreditations make the complete eradication of predatory journals and publication a complex and major challenge<sup>40</sup>. Yet, the possible solution may be in developing strategies to eradicate them slowly by the following measures.

1. Training for identification of Predatory journals- This should be carried out periodically with any updates in the information to recognize the predatory journals

2. Continuous Medical/Dental Education: Conducting surveys on plagiarism and assessing the results can give a broad idea of the status of plagiarism awareness among the researchers. Hence these topics should be part of student/faculty development activities, continuous medical/ dental education programs, symposia's, workshops and conferences. This will enable the participants to take an informed decision prior to any publication.

3. Quality more than Quantity of research papers: Researchers should be empowered to contribute, focus and publish on quality publication in scholarly renowned journals. The rapidly evolving truism of 'publish or perish' showcases the pressure of publishing. Tenure reviews, career advancement, postgraduate requirements or annual staff evaluation or publication targets presumed to achieve leads to publication of research with predatory journals when overstretched. A classic example is the 'replication crisis' in methodology of the researches, wherein the study is difficult to replicate due to incomplete details<sup>41</sup>. There is also a surge in the publication requirements especially for university accreditations. The pressure thus created can

be diversified to create a momentum and motivation to early academicians and scholars and dedicated researchers.

4. Policies and guidelines: Academic institutions, universities, hospitals and clinical practice centers should launch policies necessitating publications only in legitimate journals, even for the Key Performance Indicator publications. Non recognizing predatory publications can curtail the practice of predatory publishing.

5. Database Clean up and monitoring: Scholarly scientific databases should pro-actively eradicate predatory publications or journals. This should be continuously monitored.

6. Social media: Scientific networking and social networking sites should enable the distribution of information on predatory publishers and or any such updates of retraction of journals.

Although initiatives to curb predatory journals are crucial, ultimately, it is researchers' unwavering commitment to ethical publication and meticulous standards that hold the greatest power to safeguard the integrity of scholarly discourse<sup>42</sup>.

The trend of open access publishing models has paved way for individuals and entities to strategize fake publishing as a business model<sup>43</sup>. In addition to the above, the ethical concerns in publishing in such journals points out to a need-based evolution and spread of new such journals, but also the time and effort in publishing that turns out to be questionable and non credible<sup>14</sup>.

### **Conclusion**

The value of the hard work set into the research to its publication and dissemination can be disheartening and demotivating at instances which is coupled by loss via publication charges. To confine the extent of these fake journals and predatory publishers, enlightenment and awareness should be continuously made though constant publications in this arena in journals with wide reach and specialties with new updates with coordination from organizations / research institutes.



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