Abstract

The advancement of medical knowledge is quintessentially based on the authentic and reliable scientific research and publications. This is in addition to the recently mandated requirement of original research publications in indexed journals to ensure career progression in academic/medical institutions; thus, the need for ‘publications’ in scientific medical scholarly journals has increased substantially. On the other hand, this has given an unparalleled rise in the number of standalone journals and publishers ‘predatory’ is the term, who are ready to process the manuscripts on priority with almost guaranteed publication, at a cost, but having no credibility to the research being published. To foster awareness creation among students at the postgraduate level and for faculty of medical colleges and research institutions, it has become very important to avoid these predatory journals. It is high time that the thinking among researchers of ‘publish or perish’ be changed to ‘Publish and Flourish’ by adopting stringent measures which have evolved over time to curtail this bane of predatory publishing. Researchers should now take the road less travelled. This review article aims to highlight all the relevant and important points about the threats posed by predatory journals and also suggests possible ways to overcome them.


Keywords: Citation reports, Impact factor, Open access, Predatory journal

Introduction

The unscrupulous threat that has emerged to dwindle the integrity of academic publishing, popularly known as ‘predatory journals’, is exploiting the open access (OA) model by corrupting the peer review process, which is often absent or minimal in such predatory journals leading to misreporting of scientific data and results which is very direful for the community as a whole. After working in a research area, if one has been involved with research projects in the past years, the final step in the research process is always about disseminating and delivering research outcomes/results for the benefit of the society and people. Typically, all researchers (junior and senior scientists, faculty and students) fulfill the first step by presenting their research work at several local, regional, national or international conferences. These activities are important, but ultimately, they need to publish the work and their findings in scientific journals. Now comes the most important and critical part that where to and how to publish the work in renowned and high impact factor (IF) indexed Journal Citation Reports (JCR) journals for recognition of the findings. This is where utmost care and responsibility needs to be undertaken so that one does not fall to the fate of the so-called ‘Predatory Journals’, which have evolved with time, ruthlessly to exploit researchers years of hard work, time and devotion one gave for the research work to come to some good conclusion and results. Recently, the numbers of such predatory journals have outgrown, they just prey on researchers by sending invitations to publish papers in the journals, so it is high time that these predatory journals should be avoided and this is possible only when the researchers are aware of the harm they are rendering.

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**Predatory Journals**

A wide definition and how to avoid them

A sensible and sound journal selection before submission of work would in most of the cases, if not all, contribute to a major extent in avoiding this mishap known as ‘Predatory Journals’. This case is a learning experience particularly for the early career and developing country researchers. These predatory journals did not catch the sight of many researchers worldwide until Jeffrey Beall, a research librarian at the University of Colorado in Denver, after coming across increased number of spam mails loaded with invitations from such journals, did intensive research on these and later developed his own blacklist of what he calls ‘Predatory OA journals’. There were 20 publishers on Beall’s list in 2010, and now, there are more than 300. It has been estimated that there are as many as 4000 predatory journals today, at least 25% of the total number of OA journals. Moreover, to obtain a blacklist of dubious journals and publishers, the archived copies of Beall’s list may be useful. Conversely, the whitelists can be obtained from PubMed/MEDLINE and Directory of OA Journals (DOAJ), Master Journal List of Clarivate Analytics and Publons. In addition, OA Scholarly Publishers Association (OASPA), Committee on Publication Ethics (COPE), International Committee of Medical Journal Editors (ICMJE), International Association of Scientific, Technical and Medical (STM) Publishers and Centre for Journalology website may also be useful in providing the list of legitimate journals or publishers. To find a journal with an IF, JCR may be useful. Furthermore, Memon, in one of his reviews on menace of predatory journals, suggested the authors from the developing world that they should confirm, before the submission of their work, the legitimacy of the journal and its publisher. They should seek help from their senior colleagues and those with expertise in journal selection.

Why to avoid?

The need to publish in JCR indexed journals is very important as it keeps track of the numbers of citations to articles published in top-tier scholarly journals. Measuring the number of citations, articles in a given academic journal received on average tells about its IF, which is used as an indicator of the importance of a journal in a field, with journals with higher IFs being more important. Furthermore, one should be keen in checking the latest IF with JCR and cross-check the journal’s identity with its International Standard Serial Number (ISSN) (online/print), which is unique for every journal/periodicals. However, that does not mean that the journals having lower ranking in the JCR ranking are not important and should not be used for publications, it might just be an indication that the journal serves a niche expert audience, has a very specific subject matter or serves a small subfield. In these cases, it may be the best journal for your purpose, even though it is not one of the top journals in its discipline. All the basic and relevant points which are important from the view of avoiding these predatory journals and going for the right journal choice will be further discussed in this article.
Table 1: Summary of Ethical issues related to predatory journals

<table>
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<tr>
<th>Issue</th>
<th>Elaboration</th>
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<tr>
<td>Misrepresentation</td>
<td>Predatory journals distort who they are and what services they offer.</td>
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<tr>
<td>Lack of editorial and publishing standards and practices</td>
<td>Predatory journals lack standards and best practices as established by the scholarly publishing community, which improve the quality and ethics of published work.</td>
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<tr>
<td>Academic deception</td>
<td>Authors misrepresent their scholarly effort by choosing to publish in predatory journals.</td>
</tr>
<tr>
<td>Research and funding wasted</td>
<td>Research published in predatory journals may not receive the recognition it deserves and may become inaccessible, hence the effort and risk of research as well as funding are wasted.</td>
</tr>
<tr>
<td>Lack of archived content</td>
<td>Predatory journals do not archive their content in third party sites making it inaccessible in the future.</td>
</tr>
<tr>
<td>Undermining confidence in research literature</td>
<td>Predatory journals undermine faith that readers and the public have in research literature.</td>
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Several organisations also have started conducting symposia on creating awareness on predatory publishing, last year one such symposium had been organised by the European Association of Science Editors on predatory journals at 5th World Conference on Research Integrity, in Amsterdam, in May 2017. Nevertheless, on the other hand, several other studies revealed that India is among the major contributors of articles published in poor-quality predatory OA journals,[31-33] thus contributing to duality in scientific publishing in India. Seethapathy et al.[34] stated that India not only publishes the majority number of predatory journals in the world but also Indian researchers are among one of the biggest contributors to such journals. Not only this various organisations such as ICAR, CSIR and ICMR laboratories but also other national institutes such as IITs and NITs have fallen fate to these predatory journals. This exceeding number of publications in predatory journals caught the attention of Nature, one of the most competitive and well-regarded scientific journals and they have explored whether it was better to blacklist them or create a ‘white list’ of those OA journals that meet certain standards of research publications, therefore Nature included a checklist on ‘how to perform due diligence before submitting to a journal or a publisher’. The history of scientific excellence, progress in scientific research and science education in India dates back from centuries and an analytic database called ‘Nature Index’ launched in 2014 by the Nature Publishing Group highlighted that India’s research outputs have grown steadily since 2012 and ranks 13th for its high-quality scientific publications in an independently selected group of 68 high-quality scientific journals.[35] Recently, it has been also stated clearly that how harmful predatory journals are in medicine and related fields and it means that the research which is not read does not exist.[36]

How to identify the predatory journals?

Predatory journals and publishers are difficult to identify but not impossible to do so. Unfortunately, the main reason is that predatory publishing is often confused with OA publishing, which is a boon to scientific communications. Therefore, distinguishing between genuine and predatory OA publishers is a challenge for many. However, still, before one proceeds for selecting a journal for publishing, there are several checkpoints available as of now to warn you about the predatory publishers in general. First and foremost is the Beall’s list to be looked on. Furthermore, to help the researchers in choosing the right journal for publishing their research work, a movement called as ‘Think Check Submit’ was started by representatives of different publishing groups worldwide, namely Association of Learned and Professional Society Publishers, DOAJ, International Network for the Availability of Scientific Publications, ISSN, Association of European Research Libraries, OASPA, The International Association of STM Publishers, UKSG and individual publishers, which is a cross-industry led initiative by which checklist/points made by them can be followed [Figure 1] to make sure that one is choosing trusted journals for their respective research.[37]
According to the World Association of Medical Editors (WAMEs), a global nonprofit voluntary association of editors of peer-reviewed medical journals has a policy statement for identification of these predatory journals given on their website: http://www.wame.org/policy-statements#Definition PR. It provides a very informative review about the facts on predatory journals on various topics such as Identifying Predatory or Pseudo-Journals, WAME Professionalism Code of Conduct, WAME Editorial: Conflict of Interest in Peer-Reviewed Medical Journals: The WAME Position on a Challenging Problem, Definition of a Peer-Reviewed Journal. For a journal to be considered as a peer-reviewed, it should have obtained external reviews for the majority of manuscripts it publishes, including all original research and review articles. The other condition for it is that a manuscript should have been reviewed by at least one external reviewer; typically, comprising of two reviewers and sometimes more opinions can be also sought. Such journal should always state their peer-review policies, including which kinds of articles are peer-reviewed and by how many reviewers, in the instructions for authors and this should be fully ensured by the journal’s editor. The severe impact of publications in predatory journals compelled the Medical Council of India to introduce the rule that publications in e-journals cannot be used in the assessments for appointments or promotions in medical institutions. Another similar small working group
of general medical journal editors known as ICMJE have some recommendations to review the best practice and ethical standards in the conduct and reporting of research and other material published in medical journals and to help authors, editors and others involved in peer review process and also the biomedical publishing fraternity to create and distribute clear and valid medical journal articles. They provide useful insights into the medical editing and publishing process for the media, patients and their families and general readers, so one should meticulously follow these guidelines for publishing any medical research papers from clinical trials especially, as the results have a direct influence and relation to the patient’s well-being and health, which the pseudo-journals do not follow and thus resulting in reporting of fraud results which are very fatal for the society. Another option which one can easily avail is to refer to DOAJ which is a community-curated online directory that indexes and provides access to high quality, OA, peer-reviewed journals. Being an independent entity, all funding for it is through donations, 50% of which comes from sponsors and 50% from members and publisher members. It provides the services free of cost, including being indexed in DOAJ. Data are available for public, aiming specifically to increase the visibility and ease of use of OA scientific and scholarly journals to increase their usage and impact. More importantly, to ensure that research and publication integrity is maintained, it is essentially required that the institutions and journals cooperate with each other on all aspects of research and publication integrity, which has been set by COPE, which is not followed by predatory journals. Predatory journals do not follow the COPE guidelines on publication ethics which strictly focus on research misconduct and transparency among authors and research integrity.[40] These are some of the best practice guidelines on publication ethics and have been ardently written for a framework developed to implement their own publication ethics policies and systems.[41] The Best Practice Guidelines on Publication Ethics have been written to offer journal editors a framework for developing and implementing their own publication ethics policies and systems.

Hence, it is very important for all the researchers worldwide to be fully aware of the existence and knowledge about these predatory journals and avoid the bait that they throw to catch the research articles. It is all about fraud, deception and irresponsibility, which can never be tolerated in science and must be addressed critically, thus focusing on an urgent need to develop a mechanism both by institutes and funding agencies to identify the quality of the articles published by the respective institutes and researchers. Furthermore, medical researchers with enough scientific passion at medical colleges/institutes/ organisations should also be encouraged to improve their quality of research and submit their publications to recognised scientific peer-reviewed journals. Therefore, one should be cautious at all levels, think before they submit and also advise others of the hazardous world of predatory publishers and their journals. One more aspect which might help in preventing these journals to flourish may be to do a research in future to understand that why some authors publish in these journals, as such knowledge will surely be a great help in developing programs to prevent submissions to predatory journals. Only then can the menace of these predatory journals be reduced, making the research more effective in terms of reaching the society and people who are the ultimate beneficiaries of the outcome.

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**Conflicts of interest**

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Republication Revues prédatrices: Inconvénients pour la recherche et atténuation de l’impact et de la pertinence des résultats scientifiques

L’avancement des connaissances médicales repose essentiellement sur la recherche et les publications scientifiques authentiques et fiables. Cela s’ajoute à l’exigence récemment imposée de publications de recherche originales dans des revues indexées en vue d’assurer la progression de carrière au sein des établissements universitaires/ médicaux ; le besoin de « publications » dans des revues scientifiques spécialisées en médecine a ainsi considérablement augmenté. D’autre part, cela a donné lieu à une augmentation sans précédent du nombre de revues indépendantes et d’éditeurs « prédateurs » pour ainsi dire qui sont prêts à traiter les manuscrits en priorité avec une publication quasi garantie, à un coût, mais sans crédibilité en ce qui concerne les travaux de recherche publiés. Afin de générer une prise de conscience chez les étudiants de troisième cycle et les professeurs des facultés de médecine et des instituts de recherche, il est devenu très important d’éviter ces revues prédatrices. Il est grand temps que la pensée courante parmi les chercheurs qui est de « publier ou périr » devienne « publier et prospérer » en adoptant des mesures rigoureuses qui ont évolué au fil du temps pour mettre fin à ce type de publications prédatrices. Les chercheurs devront désormais choisir de prendre le chemin le moins souvent emprunté. Cet article de synthèse vise à mettre en évidence tous les points pertinents et importants concernant les menaces posées par les revues prédatrices et propose également des pistes pour les surmonter. Republié avec l’autorisation de : Jain NC, Khan GS. Revues prédatrices : Inconvénients pour la recherche et atténuation de l’impact et de la pertinence des résultats scientifiques. RUHS J Health Sci 2018;3:99-105.

Republicación – revistas depredadoras: el lado oscuro de la investigación y obstáculo para el impacto y la relevancia de los trabajos de investigación

El avance del conocimiento médico se basa esencialmente en investigaciones y publicaciones auténticas y fiables. Esto se aña de al reciente requisito obligado de presentar publicaciones de investigación originales en revistas indexadas para asegurar el avance de la carrera profesional en las instituciones académicas y médicas, por lo que ha aumentado considerablemente la necesidad de “publicar” en revistas médicas expertas. Por otro lado, esto ha dado lugar a un incremento sin igual del número de revistas y editores autónomos. El término “depredador” se aplica a los que, por dinero, están dispuestos a procesar manuscritos con prioridad y publicación casi garantizada, aunque no tengan la credibilidad de la investigación que se está publicando. Para fomentar la concienciación de los estudiantes en el nivel de posgrado y el profesorado de las facultades médicas y de las instituciones de investigación, resulta muy importante evitar estas revistas depredadoras. Ha llegado el momento en que los investigadores abandonen el pensamiento de “publicar o morir” y pasen a “publicar y florecer” adoptando medidas estrictas que han evolucionado con el tiempo para reducir este abedul de publicaciones depredadoras. Ahora, los investigadores deben tomar el camino menos transitado. Este artículo de revisión tiene por objetivo evidenciar todos los puntos relevantes e importantes sobre las amenazas que suponen las revistas depredadoras y también indicar las posibles vías para superarlas. Republi ce con permiso de: Jain NC, Khan GS. Predatory Journals: A Downside on Research and Hampering the Impact and Relevance of Scientific Outcome. RUHS J. Health Sci 2018;3:99-105.

“Predatory Publishing” (Räuberisches Publizieren) in Zeitschriften: Ein Nachteil in der Forschung und Beeinträchtigung von Einfluss und Relevanz wissenschaftlicher Ergebnisse

Jain and Khan: Predatory journals: A downside on research

再出版《掠奪型期刊：研究不利的一面和阻礙科學成果的影響和相關性》

醫學知識的進步本質上是基於真實可靠的科學研究和出版物。這尤其由於最近強制要求在索引期刊上發表原始研究文獻，以確保學術／醫療機構中的職業發展；因此，對於在科學醫學學術期刊上「出版」的需求已經大大提升。另一方面，這讓獨立期刊和出版商的數量空前提升，它們被稱作「掠奪型」，他們專門優先處理稿件，只要付出費用，幾乎能保證出版，但對出版的研究沒有可靠性。為了培養研究生、醫學院校和研究機構人員的意識，避免這些掠食性期刊變得非常重要。現在是最關鍵時刻，去讓研究人員的「不出版，即滅亡」思維，轉變為「出版並百花齊放」，要採取嚴格措施來遏制這些掠食性出版物。現在，研究人員應該走少人走的路。這篇綜述文章旨在強調有關掠食性期刊所構成的威脅之所有相關重點，並提出克服這些威脅的可能途徑。再出版許可來自：Jain NC, Khan GS.《掠奪型期刊：研究不利的一面和阻礙科學成果的影響和相關性》RUHS J Health Sci 2018;3:99-105.