

# Awareness of Predatory Journals among Physicians from Africa and the Middle East: An Exploratory Survey

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## Abstract

**Objectives:** There is a recent proliferation of predatory journals (PJ) targeting unwary authors and unsuspecting institutions. We evaluated the awareness, attitude, and practices related to predatory publishing among physicians from the Middle East and Africa. **Subjects and Methods:** An online survey of a convenience sample of physicians was conducted. One hundred and forty responses were received. Of these 76 were complete and they formed the basis of this study. **Results:** Respondents hold a specialty board or equivalent (46.1%), doctorate (26.3%) or Master (13.2%). Half of the respondents published between 1 and 10 articles and less than a fifth had no prior authorship experience. Respondents are reportedly fully aware (30.3%) or fairly familiar but were not confident with details (43.4%), whereas 26.3% have no clear idea about models of publishing (open access [OA] vs. subscription-only). Nearly one third have never heard about predatory publishing and one in six of the respondents may have heard about it, but they were not sure. 69.7% reported no knowledge of Jeffery Beall and his list. The majority thought it might be somewhat difficult (51.4%) or difficult (24.3%) to distinguish between predatory and legitimate OA journals and 40%–60% affirmed knowledge of features of predatory publishing practices. 50%–60% recognized that PJ target authors in the developing nations. Respondents reported a variable frequency of unsolicited E-mails inviting them to submit articles to suspected PJ or act as reviewers or editors. Only a minority would take further action to protest against such invitations. Many respondents suggested warning young researchers and inexperienced authors about PJ by improved supervision and mentorship practices. **Conclusions:** There is a low awareness of predatory publishing. There were varying attitudes and practices among respondents.

**Keywords:** Developing world, medical journalism, open access, peer review, predatory journals, publication ethics, research, scholarly publishing

## INTRODUCTION

Open access (OA) to science is a model for publishing scholarly peer-reviewed journals made possible by the Internet.<sup>[1]</sup> The full text of OA journals and articles can be freely read, as the publishing is funded through means other than subscriptions.<sup>[1,2]</sup> They seem to have been through three distinct periods: The Pioneering years, the innovation years, and the consolidation years.<sup>[2]</sup> Indeed, OA journals do represent a recent revolution in scientific communication. It is now required by an increasing number of major funders and institutions.<sup>[2]</sup> They attract authors who wish to give their work prompt and unfettered access.<sup>[3]</sup> The proliferation of online OA journals has included major journal “brands” targeting articles that could not make it to the conventional publishing.

Unfortunately, OA movement also included journals and publishers that lack a legitimate foundation and use online publishing solely for financial gain, and hence, the name “predatory” was coined.<sup>[4-6]</sup> With the advancing information technology and website designing software, predatory journals (PJ) may present a seemingly legitimate face for an illegitimate publication process that lacks basic industry standards, sound peer-review practices, or any commitment to scholarly publication ethics.<sup>[4-6]</sup>

Recent editorials in this journal sent wake-up calls to editors and authors in the Middle East and Africa on false academia,

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bogus conferences and PJ in developing countries.<sup>[7,8]</sup> Actual search on the websites of 11 general medical journals failed to detect any reference to PJ in English or French. There was a lack of knowledge and appreciation of the seriousness and danger of PJ's on medical research.<sup>[7]</sup> Interestingly, a recent survey of awareness of "predatory" OA journals among prospective veterinary and medical authors from North America revealed variable and inconsistent perceptions.<sup>[9]</sup> However, to the best of our knowledge, we are not aware of a comprehensive assessment of physicians' views of predatory publishing from regions that are classically considered vulnerable to these publications. We have therefore conducted this exploratory survey to gain some insight into the perceptions and practices of physicians in Africa and the Middle East to predatory publications with the goal to formulate the basis for further actions.

## SUBJECTS AND METHODS

A cross-sectional electronic questionnaire survey was conducted in July 2017. The study was approved by the Institutional Review Board of Sheikh Khalifa Medical City (SKMC), Abu Dhabi, United Arab Emirates (UAE), as per local convention. A web-based commercial software (Survey Monkey, Palo Alto, CA, USA) was used. The survey was sent to an institutional database of physicians based in the Middle East and Africa. An online electronic consent was obtained and demographic, professional, and publishing profiles were captured. The actual survey had ten items presented as multiple choice question [Table 1]. The questions were developed by the authors based on a review of the literature. Four domains were included: 2 on awareness of models of publishing, 4 on awareness of predatory journalism, 2 on personal encounters with PJ, and 2 on personal reaction and views of the response from academia to predatory journalism.

## RESULTS

### Demographic and professional profiles of respondents

A total of 1429 invitations were sent out. A total of 140 responses were received (9.8% response rate). However, only seventy-six responses complete responses [Africa (38) and the Middle East (38)] were included in the analysis. The country-wise distribution was (in decreasing frequency): UAE (19), South Africa (14), Libya (8), Nigeria (7), Iraq (7), Saudi Arabia (5), and Egypt (3). There were one or two respondents from each of Algeria, Oman, Kuwait, Tunisia, Zimbabwe, Kenya, Morocco, and Palestine. 11 (14.5%) has a university degree, 10 (13.2%) has master's 20 (26.3%), has a doctorate, and 35 (46.1%) hold high medical specialty board-equivalent qualifications. Fourteen (18.4%) had no prior authorship experience, 39 (51.3%) published between 1 and 10 articles; 10 (13.2%) published 11–20 articles, and 13 (16.1%) published more than 20 articles.

### Awareness of open access and predatory journals

Regarding familiarity with the concepts of OA versus subscription-only journals, less than one-third of the

**Table 1: The survey questions on perceptions of physicians of predatory journals**

Q 1: Medical publishing is either: SOA or OA. While subscription-based publishing does not charge the author, OA does. Please indicate how familiar you are with this concept? [Options: Fully knowledgeable, fairly familiar, but not in full detail or I do not have a clear idea]

Q 2: Open-access medical publishing opened the door for the so-called "predatory" journals. These take authors' money but provide no substantial peer review or indexing to disseminate research findings truly. Please indicate how familiar you are with this concept? [Options: Never heard it before today, I may have heard it but not sure, heard it in a person or social media, heard it in a lecture or a presentation, discussed it in depth with a colleague, read about it in a book or a journal, had to deal with in real life, I fell victim to it as a reviewer, I fell victim to it as an author]

Q 3: Have you ever heard the name of "Jeffrey Beall" or "The Beall's List" in the context of predatory publishers? [Options: Yes, no, not sure]

Q 4: Features suggestive of predatory journals include the following (you may check any number you wish). [Options: Nonpeer-review publication process, quick time between submission and publication, falsely listing or exaggerating the credibility of editorial board, lack of or falsification of institutional affiliations and database listings (indexation), use of fake impact factors, presence of plagiarism in their published articles, lack of transparency or honesty regarding the ownership and headquarter location of the publisher, manipulative spam that praises one's earlier publications and seeks another, predatory publishers do not follow the scholarly publishing industry best practices]

Q 5: On "Predatory journals and the developing world" (you may check any number you wish). [Options: Predatory journals are exclusively based in the developing world, predatory journals target authors in the developing world, predatory journals charge no publication fees of any sort to authors from the developing world, young and inexperienced authors fell for predatory journals, and frustrated academics wanting speedy promotions to support predatory journals]

Q 6: Discriminating between predatory and legitimate open-access journals are [Option: Very easy, easy, somewhat difficult, difficult, very difficult, and extremely difficult]

Q 7: I receive emails inviting me to submit articles to suspected predatory journals almost: [Option: Several requests daily, only one or two daily, several requests weekly, one or two weekly, less frequent than once weekly, and perhaps monthly or less]

Q 8: Have you ever been invited to act as a reviewer or editorial board member for what sounds to you as a predatory journal? [Options: Yes, many times, Yes, once or twice, and Never]

Q 9: What do you personally do when you get invited to publish, review or serve on the editorial board for what sounds to you as a predatory journal? [Options: I am not sure what to do, and It never happened to me to address the issue, I simply delete the e-mail, I delete the email and flag it as a spam, I write back to them telling them that they are a predatory journal and I do not want to receive any future invitations, I write back to them telling them that they are a predatory journal and I do not want to receive any future invitations and I tell them that I will forward the email to Jeffery Beall]

Q 10: What do you think the academic community should do about predatory journals? [Options: Leave them to survive or perish on as may come, Improved research in the developing world to be publishable in international literature at large. Develop journals that cater for the needs authors from the developing world without impeding quality. International journals should adopt a more tolerant approach to submissions from the developing world in matters of language and styling and focus more on scientific merit, young and inexperienced authors should be warned about them. All submissions, as a rule, must be carefully checked and approved by research supervisors. Academic promotion applications should exclude publication credits from known predatory journals]

SOA: Subscription-only access, OA: Open access

respondents (30.3%) are thoroughly knowledgeable, under half (43.4%) are relatively familiar but are not confident with details whereas over a quarter (26.3%) had no clear idea about the subject [Table 2]. Concerning PJ, nearly one-third have never heard about predatory publishing hitherto. Less than quarter of respondents have ever heard of “Jeffery Beall” or his list [Table 2].

### Recognizing predatory journals

Discriminating between predatory and legitimate OA journals was thought to be easy or very easy by 21.6% of respondents. On the other hand, the majority thought it might be difficult (24.3%) or somewhat difficult (51.4%). Nearly 40%–60% recognized the characteristic features of predatory publishing and its business model [Table 3]. Nearly 50%–60% of respondents knew that PJ target authors in the developing world, those who are young and inexperienced authors fell for PJ and frustrated academics may support the PJ to achieve rapid promotions [Table 3].

### Respondents' encounters with predatory journals

About 11.6% of respondents reported receiving one or more E-mails inviting respondents to submit articles to suspected PJ, and 23.2% stated receiving one or more E-mails on a weekly basis. However, some received messages less often than weekly (15.9%) and perhaps only monthly (49.3%). Furthermore, respondents have been invited to act as a reviewer or editorial board member for what sounds to them as a PJ repeatedly (21.3%) or occasionally (21.3%).

### Respondents' stand against predatory publishing

The most common reaction invitations from predatory journals was merely to delete the E-mail and flag it as a spam. Slightly less respondents were not sure what to do and as this has never happened to some, they never had to address the issue [Table 4]. Only a minority would take further action to protest against these invitations and demand stopping future requests or face the publishers with their predatory nature [Table 4]. The most frequently suggested responses of the academic community to PJ aimed at warning young and inexperienced authors and improving the supervision of young researchers with strict good mentorship practices to enhance the quality of research [Table 4]. Other suggestions included calling for adoption of a more supportive attitude of international journals toward submissions from developing countries and developing good journals that cater to concerns of the the need to develop nations. Respondents suggested the exclusion of any credits based on known PJ toward academic promotion criteria [Table 4].

## DISCUSSION

Our survey results revealed that many current and potential authors in this cohort are unaware of PJ or of possible differences among journal models that may be important when selecting a journal for publication. Many have been the target for the PJ and publishers to get involved as authors and some as reviewers or editors. The responses of participating physicians to the predatory movement were not appropriately

**Table 2: Awareness of respondents of predatory publishing model and the uncovering of predatory publishing practices**

Questions and possible response options*	n (%)
I. Familiarity with predatory journals (n=74)	
A. Never heard it before today	24 (32.4)
B. I may have heard it but not sure	13 (17.6)
C. Heard it in person or social media	8 (10.8)
D. Discussed it in depth with a colleague	6 (8.1)
E. Had to deal with in real life	6 (8.1)
F. Heard it in a lecture or a presentation	5 (6.8)
G. Read about it in a book or a journal	5 (6.8)
H. I fell victim to it as an author	4 (5.4)
I. I fell victim to it as a reviewer	3 (4.1)
II. Have you ever heard of Jeffrey Beall or The Beall List? (n=76)	
A. No	53 (69.7)
B. Yes	17 (22.4)
C. Not sure	6 (7.9)

\*Only one answer was acceptable for both questions

**Table 3: Knowledge of respondents of the characteristic features of predatory journals and the specific impact of publishing practices in the developing countries**

Questions and possible response options*	n (%)
I. Recognized characteristics suggestive of predatory journals (n=72)	
A. Nonpeer-review publication process	43 (59.7)
B. Quick time between submission and publication	43 (59.7)
C. Falsely listing or exaggerating the credibility of the editorial board	40 (55.6)
D. Lack of transparency or honesty regarding the ownership and headquarter location of the publisher	38 (52.8)
E. Do not follow the scholarly publishing industry best practices.	35 (48.6)
F. Manipulative spam that praises one's earlier publications and seeks another	33 (45.8)
G. Presence of plagiarism in their published articles	30 (41.7)
H. Lack or falsification of institutional affiliations and Indexation	30 (41.7)
I. Use of fake impact factors	26 (37.5)
II. Predatory journals and the developing world (n=72)	
A. Young and inexperienced authors fell for predatory journals	45 (62.5)
B. Frustrated academics wanting speedy promotions support predatory journals	44 (61.1)
C. Predatory journals target authors in the developing world	40 (55.6)
D. Predatory journals are exclusively based in developing countries	8 (11.1)
E. Predatory journals charge no publication fees of any sort to authors from the developing world	5 (6.9)

\*Respondents were allowed to choose as many answers as they deem right. Percentage adjustments made to allow for absent responses

assertive, perhaps reflecting the lack of clear understanding of the danger of this movement and its negative impact genuine scholarly publishing.

**Table 4: The respondents' reactions in response to invitations from a predatory journal and their views on what the academic community should do about predatory publishing**

Questions and responses	n (%)
I. The individual reaction of respondents when you get invited to publish, review, or serve on the editorial board for what sounds to you as a predatory journal* (n=75)	
A. I only delete the e-mail	31 (41.3)
B. I am not sure what to do, and it never happened to me to address the issue	30 (40.0)
C. I delete the email and flag it as a spam	7 (9.3)
D. I write back to them telling them that they are a predatory journal and I do not want to receive any future invitations and I inform them that I will forward the email to Jeffrey Beall	5 (6.7)
E. I write back to them telling them that they are a predatory journal and I do not want to receive any future invitations	2 (2.7)
II. What do you think the academic community should do about predatory journals?*** (n=75)	
A. Young and inexperienced authors should be warned about them	45 (60.0)
B. International journals should adopt a more tolerant approach to submissions from the developing world in matters of language and styling and focus more on scientific merit	32 (42.7)
C. Improved research in the developing world to be publishable in international literature at large	34 (42.7)
D. All submissions, as a rule, must be carefully checked and approved by research supervisors	31 (41.3)
E. Academic promotion applications should exclude publication credits from known predatory journals	31 (41.3)
F. Develop journals that cater for the needs authors from the developing world without impeding quality	30 (40.0)
G. Leave them to survive or perish on as may come	5 (6.7)

\*Single response, \*\*Respondents may choose as many answers as they deem right

Although a total of 140 responses were received from those who consented to participate, only just over half progressed to the predatory questionnaire. It may possibly be inferred from this observation that respondents who did not proceed to the actual predatory questionnaire have a total lack of knowledge of the subject of PJ. Of those who completed the survey, equal numbers of respondents were entered in the study from Africa and the Middle East despite the small numbers in to allow subgroup analysis. There was no dichotomy in results between the two regions (data not shown). Our survey did explicitly document respondents' experience with publishing to establish the relative risk, an aspect that was not included in some studies.<sup>[9]</sup> Over half have some authorship experience as they published between 1 and 10 articles, whereas 16.1% are experienced authors with more than 20 articles, although less than one in 5 had no prior authorship experience; they remain potential authors as all medically qualified and half of them hold more than their basic university qualification.

There was a low level (less than one-third of the respondents) of recognizing the differences between the major two

publishing models (i.e., OA and subscription-only). This might confuse authors when they consider submission of papers.<sup>[3]</sup> Furthermore, nearly one-third have never heard about the term predatory publishing hitherto. Indeed, less than a quarter of respondents have ever heard of "Jeffrey Beall" or his list.<sup>[4-6]</sup> This is similar to a previous report from North America.<sup>[9]</sup> Despite this, discriminating between predatory and legitimate OA journals may have seemed logical and was thought to be easy or very easy by over fifth of respondents. In contrast, the majority thought it might be difficult or somewhat difficult. There was a variable awareness of the features of PJ and their impact in developing countries among respondents. They recognized the characteristic features of predatory publishing and its business model and their focused attack on authors in the developing world, particularly young and inexperienced authors. Frustrated academics may support the PJ inadvertently to achieve rapid promotions. This may reflect poor knowledge or some ethical failures.<sup>[11]</sup> Recent analyses confirmed that PJ is especially affecting developing countries.<sup>[12]</sup> This is reflected in both the location of the journals and their authors.<sup>[13,14]</sup> In the medical literature India, Nigeria, and Iran are in the front of countries affected by the predatory movement. However, a recent lay daily journal investigated the issue in Saudi Arabia and demonstrated that 730 articles by Saudi academic authors from several major institutions were published in PJ despite an explicit warning by top Saudi national university authorities.<sup>[15]</sup>

It has been highlighted that authors in the developing world are likely to have far less training, mentorship, and support than those in high-income countries to discern the legitimacy of available journals.<sup>[16]</sup> With relatively less developed institutional structures (little or no formal training in writing and publishing, no in-house publication officers, etc.), there is also less accountability for journal choices. Pragmatically, many of the young medical authors may start with a case report. The vast expansion in case report journals warrants careful attention.<sup>[16]</sup>

The lack of mentorship, training, and accountability around publication that give rise to research being "lost" in PJ indicates a failure of institutions, so demand-side solutions will still be the best way to address the problem.<sup>[7,9,12]</sup> This requires investment in and commitment to enhancing understanding and skill among low- and middle-income countries authors. Support is needed for legitimate journals; improving accountability of institutions and funders for the research and training they support; broadening notions of demonstrating research impact (beyond publication); and expanding or dismantling promotion systems that focus only on publication credit that counts quantity rather than ensures quality.<sup>[12]</sup>

Our respondents reported, receiving E-mails inviting them to submit articles to suspected PJ on a daily, weekly, or monthly basis. The frequency would probably be directly proportionate to their academic activity and exposure on the Internet. This is typical of the predatory journal and publishers' behavior of identifying publications in genuine journals and writing to the authors in a flattering tone and inviting them to submit more

to these journals.<sup>[6]</sup> Authors should be cautious and on their guard.<sup>[10]</sup> Furthermore, respondents have been invited to act as a reviewer or editorial board member for what sounds to them as a PJ repeatedly or occasionally. Interestingly, the responses of the majority were fairly passive by simply deleting the E-mail and flagging it as spam similar to a previous study.<sup>[9]</sup> Only a minority would take further action to protest against these invitations and demand stopping future invitations and face the publishers with their predatory nature. The mild nature of the professionals' responses does not help the cause of true scholarly publishing and genuine research.<sup>[7,10,12]</sup> Calls were made to adopt a more firm stance against these publications to limit their damage to the progression of science and medicine.<sup>[4-6,12]</sup>

The most frequently suggested responses of the academic community to PJ aimed at warning young and inexperienced authors and improving the supervision of young researchers with strict good mentorship practices to enhance the quality of research.<sup>[12]</sup> Other suggestions included the adoption of a more supportive attitude of international journals toward submissions from developing countries and also the need to develop good journals that cater for concerns of the developing countries.<sup>[9]</sup> Our respondents, similar to many others, suggested exclusion of any credits based on known PJ toward academic promotion criteria.<sup>[12]</sup>

The main limitation of our survey was the relatively small sample size similar to other studies.<sup>[9]</sup> The authors were ambitious that more respondents would come forward to share their views and experiences. However, being focused on medical professionals, it remains reasonably homogeneous for a scoping study. In addition, many of the respondents are holders of postgraduate degrees who are in academic positions thus they are either current or potential authors. The questions were structured to assess the respondent's perceptions and practices and were reasonably detailed. Hence, the captured information should provide a precise reflection of both perceptions, attitude and practices.

## CONCLUSIONS

The present survey revealed a low and inconsistent awareness of the publishing models and the risk of PJ and their associated practices and implications. Concerted efforts are required to eliminate the threat of predatory publishing to the medical profession in these high-risk regions. Mentorship and close supervision of trainees and aspiring researchers are vital particularly those who may be based in clinical rather than academic settings. More efforts are needed to resolve the North-South divide of access to high-quality research opportunities and more openness to health care concerns of developing nations.

## Authors contribution

SAB conceived the study, managed the survey, and drafted the manuscript. All authors examined the data, revised the manuscript, and approved its final version.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

## Compliance with ethical principles

Ethical approval was granted by the institutional review board of SKMC, Abu Dhabi, UAE. All participants provided consent before being able to proceed to the questionnaire. Data were extracted and analyzed anonymously.

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