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Predatory open-access publishing in critical care medicine

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ABSTRACT

Purpose: To evaluate the characteristics and practice of predatory journals in critical care medicine (CCM).
Methods: We checked a freely accessible online and constantly updated version of the Beall lists of potential predatory publishers/journals in the field of CCM. We checked the journals' websites to retrieve the following data such as: 1) Country and address (checked by Google maps); 2) Article processing charges (APC); 3) Indexing; 4) Editor-in-chief and the Editorial Board (EB) members; 5) Number of published articles; 6) Review time (lapse submission-acceptance); 7) English form.
Results: We identified 86 CCM journals from 48 publishers. Most journals' reported address was in the US (52%). The address was unreliable in 43%. English form was low/very-low in 72% of cases. Three journals were indexed in PubMed. Several journals reported false indexing in the Committee on publication ethics (COPE), International Committee of Medical Journal Editors (ICMJE), Directory of Open Access Journals (DOAJ) and Google Scholar. Median APCs for research article was 909.5 USD. Name of the Editor-in-chief and EB lists were reported by 29% and 81%, respectively. Median lapse submission-acceptance for published articles was 32 days.
Conclusions: We found a relevant number of probable predatory CCM journals. Scientists should carefully check journal's characteristics to avoid selecting predatory journals as editorial target.

1. Introduction

Predatory open-access publishing has been defined as fraudulent open-access model that applies charges to the authors under the pretense of legitimate publishing operations without providing adequate editorials services, including proper peer-review, as with legitimate journals [1]. It has been recently calculated that nearly half a million articles had been already published in predatory journals [2]. This phenomenon has been associated with other scientific misconducts such as repetitive email spamming, recruiting scholars for fake editorial positions, reporting fake metrics, exploiting academic identities [1,2].

In 2012, Jeffrey Beall created a list of "potential, possible or probable" predatory publishers/journals. The aim of the lists was to report questionable scholarly open-access publishers and standalone journals (without a specific publisher). Although discontinued in January 2017, anonymous researchers are updating the list using the original criteria, based on information about the publishers, the Editorial Board (EB), editorial flows and indexing [3]. The list has been surveyed to analyze the phenomenon of predatory publishing in several biomedical fields, such as neurosciences, rehabilitation, nursing, dermatology and anesthesiology [4-7]. The aim of this study was to evaluate the characteristics and practice of predatory journals in critical care medicine (CCM).

2. Methods

Two authors (A.C., J.T.) independently searched an archived, freely accessible online, constantly updated version of the original Beall lists. The inclusion criteria of the lists were based on 2 Committee on publication ethics (COPE) documents: 1) code of conduct for journal publishers; 2) principles of transparency and best practice in scholarly publishing [3]. Other two authors (F.S., A.G.) helped to solve discrepancies. We searched journals containing at least one of the following keywords: "critical care" or "intensive care" or "critically" or "resuscitation" or "trauma" or "respiratory" or "sepsis" or "shock". In case of doubt about potentially relevant journals, the inclusion was evaluated by consensus taking into account the information reported in aims and scope of the journal.

We checked the journals' websites to retrieve the following information/data: 1) Location and address. We verified the reported address using Google Maps [2], and the location was classified as "reliable" or "unreliable"; 2) article processing charges (APCs) for original research article; 3) the database/registries in which each journal claimed to be indexed. We verified journals' indexing in the following databases/registries: PubMed, Scopus, Directory of Open Access Journals (DOAJ), COPE, International Committee of Medical Journal Editors (ICMJE), Google Scholar; 4) the Editor-in-chief (EIC), including his/her number of

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publication indexed in Scopus. We defined the EB competency as "inappropriate" when ≥30% of members' reported affiliations were incongruent with journal field [7]; 5) the number of published article, review time (lapse between submission and acceptance of the last 5 articles published in the current issue), and the number of years of editorial activity; 6) presence of editorial policy/ethics about scientific misconducts; 7) English language quality on the journal website checked by a professional native speaker (graded as "very low", "low" or "standard").

The last search update was performed on 20th July 2018.

2.1. Statistical analysis

Statistical analysis was performed using Microsoft Excel (version 2013, Microsoft Corporation®, USA). We calculated and reported the mean and standard deviation for variables with a normal distribution or median and interquartile ranges (IQR, 25th–75th) when distribution was not normal. We also reported range values.

3. Results

From the 2 lists consisting of 1205 potential or probable predatory publishers and 1404 standalone journals, we identified 86 journals from 48 publishers.

3.1. Location, contacts, English form

Most of journals' website reported an address in the US (n = 45/86, 52%), followed by United Kingdom (n = 9/86, 10%), India (n = 6/86, 7%), other countries (n = 5/86, 6%). Fifteen percent (n = 13/86) of journals reported multiple addresses in more than one country. Journals' website did not report the country in 8/86 (9%) of cases. The journal location was unreliable in 43% (n = 37/86) of cases (i.e. detached houses with swimming pool and tennis courts, farms, car rental). Twenty percent (n = 17/86) of journals did not report a verifiable address. Eighty-three journal websites (97%) reported a professional email address as primary contact. English language quality was judged as standard in 28% (n = 24/86), low in 57% (n = 49/86) or very low in 15% (n = 13/86) of cases.

3.2. Indexing, metrics and International Standard Serial Numbers

Fifty journals (58%) did not report any database coverage. The median number of claimed database for journals reporting coverage in ≥ 1 database was 5.5 (IQR 2-23; range 1-31). Nineteen journals (22%) declared to be indexed or to use at least one "fake metrics" such as CiteFactor, Index Copernicus and Global Impact Factor.

Table 1 shows number (and percentages) of journals claiming their indexing in major databases such as PubMed, Scopus, DOAJ, ICMJE, DOAJ, and Google Scholar. We also reported the number of verified registration or coverage. Thirty-two (37%) journals reported an ISSN number, which could be verified only in 26 cases (81%).

3.3. Article processing charges and submission procedure

Sixty (70%) journals clearly reported APCs. The median APCs for a research article was 909.5 USD (IQR 281.25 - 1236.75; range 200 – 3619). Twenty (23%) journals declared to apply APCs reductions for authors from middle or low-income countries. The most common article submission procedures were webpage-based (n = 23/86; 27%) or by email (n = 20/86; 23%). Article submission through a submission manager program was possible in 26% of cases (n = 22/86).

3.4. Editor-in-chief and Editorial Board

Only 29% (n = 25/86) of journals clearly reported the name of the EIC. The median number of publications by EICs, retrieved from Scopus, was 50 (IQR 11.5–119; range 0–811). Eighty-one percent (n = 70/86) of journals reported the EB list. The median number of EB members was 25.5 (IQR 11–38.75; range 2–523). The competency of the EB, basing on the reported affiliation, was considered as "incongruent" in 5% of journals (n = 4/86) but it was not possible to determine in 42% (n = 36/86).

Table 1
Number of journals claiming indexing in databases and verification conducted by the authors.

Database	Journals claiming to be indexed or registered - N (%)[a] (Total: 86)	Verified indexing or registration – N (%)[b]	Indexing not found
Pubmed	3(3)	3 (100)	–
SCOPUS	2 (2)	2 (100)	–
Google scholar	31 (36)	21 (68)	10
ICMJE	27 (31)	7 (26)	20
COPE	29 (34)	2 (7)	27
DOAJ	3 (3)	0 (0)	3

ICMJE: International Committee of Medical Journal Editors.
COPE: Committee on Publication Ethics.
DOAJ: Directory of Open Access Journals.
[a] Percent of total journals.
[b] Row percent.

3.5. Published articles, review process, editorial policy

Twenty-seven journals (31%) did not publish articles. Concerning journals which published at least one article, the median number of articles from the inception was 25 (IQR 7-55; range 1-3444). The total amount of published articles was 6572. The median time of publication activity was 2 years (IQR 1-4; range 1-8).

The median peer-review time for published articles was 32 days (IQR 17.75-66.25; range 1-333). However, we could not calculate the review time in 42% of cases (n = 36/86) due to the lack of submission and/or acceptance date.

Only 19% of journals (n = 16/86) clearly reported their policy for article retraction, scientific misconducts or publication ethics.

4. Discussion

The main finding of this study is the relevant number of potential or probable predatory journals in the field of CCM. The number of retrieved journals (n = 86) was quite similar to the number of legitimate journals in the category "Critical Care and Intensive Care Medicine" of the Scimago Journal & country rank (n = 91).

To the best of our knowledge, this is the first study specifically addressing predatory publishing in CCM. We recently evaluated potential or probable predatory journals in anesthesiology. The definition of "anesthesiology" included also intensive care and critical care other than pain and emergency medicine. However, the study protocol did not consider any sub-analysis or secondary analysis according to subspecialty. Moreover, the number of journals related to CCM was only around 30% of the total [7].

Several characteristics such as total number of published articles, reported countries, high rate of unreliable locations and very short review time, are similar to other biomedical fields [4-7]. Of note, we noticed that APCs seems to be slightly higher in predatory critical care journals (i.e., 634.5 USD in anesthesiology, 499 USD in rehabilitation, 521-637 USD in neuroscience/neuroradiology). Our data confirmed the findings that some questionable journals may be indexed in major databases, such as PubMed or Scopus [7,8]. Thus, scientists should not consider database coverage as warrantee of journal integrity [4,5,9]. Apart from journals characteristics, location, EB and indexing, other resources may help in assessing journals credentials. The "Think. Check. Submit."

campaign consists of a checklist to recognize trusted journals or publishers, endorsed by several organizations and publishers [10].

The main limitation of this analysis is related to the Beall list, which has been heavily criticized due to potential subjectivity of the inclusion criteria and temporary errors in publishers' inclusion [11]. Thus, its use has been recently questioned. In 2017, Beall decided to close his blog containing the list, probably due to lawsuit by publishers and pressure by his employer. After shutdown, anonymous researchers decided to update the lists with free online access. The list has been used in several studies and is still consider one of the most important sources of information about predatory publishing [12].

5. Conclusions

There is a relevant number of potential or probable predatory journals addressing CCM. Critical care clinicians and scientists should carefully evaluate all available resources to avoid selecting predatory journals as editorial target for their manuscripts.

Conflict of interest

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