A critical analysis of the 'UGC-approved list of journals'

Bhushan Patwardhan[1,*], Shubhada Nagarkar[2], Shridhar R. Gadre[3], Subhash C. Lakhotia[4], Vishwa Mohan Katoch[5] and David Moher[6]

[1]Interdisciplinary School of Health Sciences,
[2]Department of Library and Information Science, and
[3]Interdisciplinary School of Scientific Computing,
Savitribai Phule Pune University, Ganeshkhind, Pune 411 007, India
[4]Department of Zoology, Banaras Hindu University,
Varanasi 221 005, India
[5]Rajasthan University of Health Sciences, Jaipur 302 033, India
[6]Centre for Journalology, Clinical Epidemiology Program,
Ottawa Hospital Research Institute, Ottawa, ON, K1H 8L6, Canada

Scholarly journals play an important role in maintaining the quality and integrity of research by what they publish. Unethical practices in publishing are leading to an increased number of predatory, dubious and low-quality journals worldwide. It has been reported that the percentage of research articles published in predatory journals is high in India. The University Grants Commission (UGC), New Delhi has published an 'approved list of journals', which has been criticized due to inclusion of many substandard journals. We have developed a protocol with objective criteria for identifying journals that do not follow good publication practices. We studied 1336 journals randomly selected from 5699 in the university source component of the 'UGC-approved list'. We analysed 1009 journals after excluding 327 indexed in Scopus/Web of Science. About 34.5% of the 1009 journals were disqualified under the basic criteria because of incorrect or non-availability of essential information such as address, website details and names of editors; another 52.3% of them provided false information such as incorrect ISSN, false claims about impact factor, claimed indexing in dubious indexing databases or had poor credentials of editors. Our results suggest that over 88% of the non-indexed journals in the university source component of the UGC-approved list, included on the basis of suggestions from different universities, could be of low quality. In view of these results, the current UGC-approved list of journals needs serious re-consideration. New regulations to curtail unethical practices in scientific publishing along with organization of awareness programmes about publication ethics at Indian universities and research institutes are urgently needed.

Keywords: Predatory and dubious journals, publication ethics, university source component, unethical practices.

THE ever-increasing research activity across the world has been paralleled by the increasing number of journals where the researchers can publish and share their findings with peers and others. This has also fuelled unprecedented commercial interests in publication of research journals, so that major publishers across the globe indulge in aggressive publication efforts and policies. The competitive market of research publications has witnessed undesirable and unhealthy publication practices. The widespread 'publish or perish' policies have given rise to a breed of 'predatory journals', whose main objective is to make money by publishing 'anything' in the name of a research paper for a 'fee' commonly known as article/author processing charge (APC)[1]. Such unethical practices and the unscrupulous business of publishing have rapidly grown during the last decade. It is common to receive unsolicited, dubious e-mails inviting articles, promoting special issues, editorial board memberships and speaker invitations from predatory journals, publishers and conference organizers. The pioneering effort known as Beall's list of 'potential, possible, or probable predatory' publishers and journals[2] was closed down in January 2017, depriving researchers across the world of some cautionary advice.

The global concern of researchers and other stakeholders, such as funding agencies, with the increasing menace of predatory journals has elicited corrective responses. The National Institutes of Health (NIH), USA, encourages prospective authors to think more deeply about where to publish (https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-011.html). A greater consideration about the basic quality of the journal helps maintain credibility of all those involved in the publication process, including funders. The NIH advisory highlights key attributes to identify low-quality journals, such as lack of transparency, misleading pricing, inadequate information to authors, aggressive tactics to solicit article submissions, inaccurate statements about editorial board membership, and misleading or suspicious peer-review processes.

Publication in predatory/dubious/sub-standard journals has assumed alarming proportion in India. A recent study of 1907 articles from 200 journals revealed that a large number of predatory journals and associated articles originate from India[3,4]. It has further been reported that private/government colleges contribute to about 51% of predatory publications, followed by private universities, state universities, national institutes, central universities and industries[5,6]. Alarmed by the increasing menace of these very low-quality journals, which do not follow good publication practices (GPP), a few universities in India have taken proactive steps to frame 'Guidelines for Research Publications' (http://unipune.ac.in/uop_files/Report-Guidelines_20-5-15.pdf). The regulatory agencies in India, such as the University Grants Commission (UGC) and Medical Council of India (MCI)[7] have also initiated steps to curtail such unacademic practices.

Two primary factors have catalysed the expansion of predatory/dubious and sub-standard publications from

India. First, the UGC guidelines of 2010 introduced the so-called academic performance indicator (API) for evaluation of teachers, which laid considerable emphasis on the number of research publications ('publish or perish'). Second, the UGC regulations, as modified in 2013, mandated publication of at least two papers prior to submission of a doctoral thesis. As a consequence of these regulations, publication in journals has become a required 'compliance' criterion in the university system. Such regulations have triggered a sudden spurt in the publication of predatory/dubious journals offering 'pay and publish' services for gullible authors in the country[8]. The desperation of researchers to publish on one hand, and the poor monitoring of the research quality on the other, are the major contributory factors responsible for the current lowly publication scenario in India[9].

The UGC-approved list of journals is required for various academic purposes, including appointment of faculty, evaluation of their performance for career advancement, and submission of doctoral theses. As of now, this list, available at the UGC website (https://www.ugc.ac.in/journallist/) includes 32,659 journals classified in the following categories: (a) titles indexed in the Web of Science (WoS), Science Citation Index, Social Science Citation Index, and Arts and Humanities Citation Index; (b) titles indexed in Scopus; (c) titles indexed in Indian Citation Index; (d) journals recommended by the UGC expert committees, and (e) Journals recommended by the universities (hereafter referred to as university source). The 'university source' component of the list as provided by INFLIBNET Centre, Gandhinagar contains 5699 journals. UGC has admitted that it received several complaints about inclusion of low-quality journals soon after the release of its approved list of journals on 2 June 2017. Accordingly, UGC has removed a few journals after evaluation using defined checklist criteria, and the same is publicly available on its website.

In view of the above, we undertook a critical analysis and curation of the 'university source' category of the 'UGC-approved list of journals' to identify potentially predatory, dubious and substandard journals. The study protocol was developed after critically reviewing the UGC checklist criteria available at https://www.ugc.ac.in/journallist/methodology.pdf. The study protocol included three parts: (i) basic information about the publisher and/journal; (ii) primary criteria analysis and (iii) secondary criteria analysis (Table 1). Every journal and publisher was carefully scrutinized with the help of a trained study team for verifying the correctness of basic information and various claims made by the journal/publisher. We relied on information available on official websites and other sources in the public domain. If required we attempted to check the correctness of information by contacting editors/publishers through e-mails. Any journal/publisher found to provide false/falsified, misleading or incorrect information relating to criteria in basic and pri-

mary analysis components was not analysed further. In the secondary criteria analysis, we applied positive and negative numerical values that could generate a maximum score of 10 for the highest rating and less than 0 for the lowest (Table 1). The relative values for each attribute were fixed to reveal potential predatory nature, misleading names, history of timely publishing, quality of editorial process, nature of charges, etc. For instance, a +2 value was given for timely publication based on archive data or membership of the Committee on Publication Ethics (COPE). On the other hand, a value of –2 was given for charges for assured acceptance of publication and –1 for misleading names. We optimized the protocol with the help of a control group comprising 10 new journals (less than four years of existence), to ensure that the scoring system did not eliminate any credible new entrant merely because of high weightage criteria such as duration of existence and article processing fees (see Supplementary Material). According to the protocol, journals receiving a cumulative score less than 6 were considered to be of low quality, and therefore not appropriate for inclusion in the 'list of approved journals' (Table 1).

To minimize personal bias during evaluation and analysis of journals, we used a three-step sequential algorithm protocol (Table 1). For objective analysis, we created a web interface interactive program developed on Windows platform with the help of various tools and technologies.

In the present study, we have randomly selected 1336 journals (Supplementary Material) from the list of 5699 university source category journals provided by UGC through the INFLIBNET Centre. Of these, 327 journals were found to be indexed in Scopus/WoS and, therefore were excluded from the present study since this analysis was designed only for examining the non-indexed journals. Table 2 presents the broad discipline-wise category of 1009 journals analysed in this study. Of these 1009 journals, 349 were disqualified from further analysis because of non-availability of basic information such as the name of editor, academic affiliations, editorial office address and/or official e-mail for correspondence. Another 528 journals were disqualified on the basis of primary criteria because of false claims regarding impact factor, indexing databases and poor academic credentials of editors (Table 3). Out of the remaining, 132 journals analysed for secondary criteria, 21 could not receive the minimal qualifying score of 6. Only 112 journals out of the 1009 non-indexed university source journals secured a score value of 6 or more. Thus, about 88.9% of the non-indexed journals from the 'university source' category of the UGC list did not satisfy the minimal requirements. Table 4 presents a summary results of the analysis with broad reasons and the number of qualified and disqualified journals. Figure 1 shows results of stepwise analysis carried out according to the protocol. A complete list of journals analysed in this study and results of

Table 1. Study protocol outline for identifying predatory, dubious and low-quality journals

Basic information criteria:
    Publisher and journal
    Country and address
    Editor details
    Current status (print/online/ceased)
    Website and publisher details
    Indexing information

Primary criteria
    Correctness of ISSN numbers (verify in Ulrich and journal home page).
    Correctness of various claims related to impact factor or use of made-up measures such as view factor, universal impact factor, feigning international standing, etc.
    Correctness of claims regarding indexing or use of predatory, dubious indexing agencies.
    Availability and correctness of full postal address, e-mail id of chief editor/s and editors.
    Correctness of affiliations and academic credentials of chief editor/s, section editors/speciality editors/other editor/s (required minimum four publications in standard indexed journals).
    Peer review process and assurance of publication in any manner.
    Journal is removed and not analysed further if found to be giving incorrect/false/incomplete/misleading information, stolen identity, or if journal/ publisher is using any unethical means for editorial or marketing purposes.

Secondary criteria

Whether in the journal name 'International', 'World', 'Global', etc. is justified? (Check the editorial board, scope, author profiles)	Yes/No	+ 0 for 'Yes'/–1 for 'No'
Member of COPE or any other reputed Association/Academy?	Yes/No	+2 for 'Yes'/0 for 'No'
The journal provides complete instructions to authors/reviewers	Yes/No	+2 for 'Yes'/–1 for 'No'
History of journal existence	Year	0 for <'4 yrs'/+1 for '4–6 yrs'/+2 for > '6 yrs'
The journal has a well-defined peer review, publication and ethics policy	Yes/No	+1 for 'Yes'/–1 for 'No'
The journal levies charges for acceptance of publication	Yes/No	–2 'Yes'/+0 for 'No'
The journal has a declared frequency of publication each year	Yes/No	+1 for 'Yes'/–1 for 'No'
The journal is published regularly and in time following its declared frequency	Yes/No	+1 for 'Yes'/–1 for 'No'
Accessibility of the website	Poor/ Satisfactory	–2 for 'Poor'/+1 for 'Satisfactory'
Total score		10

Minimum score 6 out of 10 is necessary for qualified journals.
Journals indexed in Scopus/Web of Science are excluded from analysis.

Table 2. Discipline-wise category of journals

Broad discipline category	Number of journals
Science (including medicine, engineering, agriculture)	565
Multidisciplinary (Science, social science, arts and humanities)	217
Arts and humanities	125
Social science	102
Total	1009

control group analysis are provided as supplementary material.

A significant component of the contemporary research publishing industry seems to be moving from an immoral to illegal domain. During this exercise, we identified several dubious publishers and journals that are involved in various types of unethical practices. We observed that 34.5% of the non-indexed journals were disqualified under the basic criteria because of incorrect or non-availability of essential information such as address, website details and name of editor; another 52.3% pro-vided false information such as incorrect ISSN, false claims about impact factor, claimed indexing in dubious indexing databases or had poor credentials of editors. Many of these journals appeared to recruit fake editors[10]. In this study, we also observed several other fraudulent journals, not indexed in credible databases or part of the UGC list, but falsely claiming to be so, and aggressively promoting themselves through e-mails. We think that the severity of this problem might be much more than perceived. In this context, it may be noted that *Current Science* – a fortnightly research journal of long standing and

Table 3. Journals disqualified in primary criteria analysis

Criterion	Disqualified journals
ISSN not available	13
False claims regarding impact factor or use of dubious measures, assurance of publication	238
False claims regarding indexing in credible databases	165
Postal/e-mail addresses and/or details of Chief Editor are not verifiable	76
Inadequate academic credentials of Editors (less than four publications of the Editor in the given discipline in standard indexed journals)	36
Total	528

Table 4. Overall results

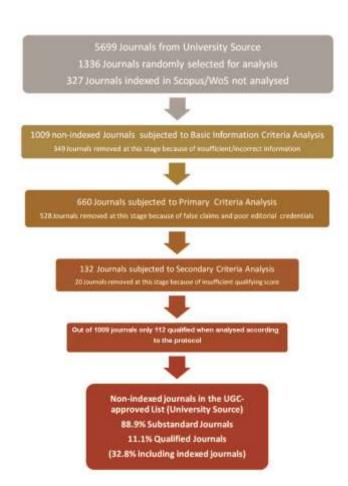| Criterion	No. of journals
Journals in the 'university source' category of the UGC-approved list	5699
Journals randomly selected for analysis from the 'university source'	1336
Journals indexed in Scopus/WoS (not analysed)	327
Journals analysed in the present study	1009
Journals disqualified based on basic information criteria (inadequate Editor details/ceased journals/magazines)	349
Journals disqualified based on primary criteria	528
Journals disqualified based on secondary criteria (did not achieve qualifying score of '6' required according to the protocol)	20
Journals qualified (according to the protocol)	112
Journals that meet the qualifying criteria (112 non-indexed + 327 indexed in Scopus/WoS)	439 (32.8%)

Figure 1. Flowchart showing results of stepwise analysis according to the protocol.

published by the Current Science Association, Bengaluru, India had to issue a predatory journal alert due to identity theft attempt from an URL located in Turkey (http://www.currentscience.ac.in/php/pdf/alert.pdf).

UGC's attempt to prepare a list of credible Indian journals through expert committees for disciplines such as liberal arts, Indian literature and languages that are not covered by Scopus and WoS is commendable. However, even though it is constituted with the best of intentions, the approach and methodology for the entire exercise of approving the list of journals could be more careful and stringent. Our analysis suggests that majority of the university source journals are of low quality. Following the experience gained from this analysis, we are refining our analysis criteria. We plan to analyse the content of Indian Citation Index, which, we suspect, could be another source of substandard journals in the UGC list. In the present study, which was primarily designed to examine the non-indexed journals, we excluded journals indexed in Scopus/WoS. However, even Scopus/WoS databases seem to include a few predatory/substandard journals[11]. Therefore, we need to examine them in future studies. There is an urgent need for a coordinated effort with participation of all stakeholders, including researchers, institutions, funders, regulators and academies to stop the mushrooming of illegitimate journals[12].

Increasingly compromised publication ethics and deteriorating academic integrity is a global and growing problem contaminating all domains of research. There are many disadvantages of publishing in predatory journals.

There is growing consensus that such publications need to be challenged, questioned and de-recognized at every level[13]. Only 112, out of 1009 journals (11.1%) from the non-indexed journals in the university source category examined by us qualified in the analysis. Therefore, journals from the university source component, except those already indexed in Scopus/WoS, should be cancelled and withdrawn from the current UGC-approved list of journals.

In view of the publications in predatory or dubious journals reaching alarming levels in India, it is essential that the academia and government agencies in the country work together to develop stringent punitive provisions and decide strategies for damage control. There is an urgent need to issue suitable advisories and create awareness to maintain high levels of publication ethics, especially in the Indian academic institutions. UGC may consider establishing a 'Centre for Publication Ethics' to create wider awareness regarding GPP among faculty and students, so that the rapidly growing predatory publishing business and 'pay and publish trash' culture can be thwarted. It would greatly help if UGC, MCI and policy think-tanks such as NITI Aayog convene consultative meetings involving different funding agencies, national academies and research councils to discuss these issues and suggest possible technological solutions to address the present crisis.

Research is for pleasure of discovery, search for new knowledge and a service to humanity. It should not be reduced to a compulsory mechanical process to be undertaken primarily for the sake of getting a degree, social prestige, employment or other individual benefits. The increasing culture of publish or perish, and undue emphasis on quantity over quality are major concerns[9]. Implementation of international recommendations such as the San Francisco Declaration on Research Assessment and the Leiden Manifesto[14] may be useful to improve the present API approach and academic assessment system.

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