

Predatory journals and academic pollution

As a general principle, research is a self-motivated analytical study to seek answers to some questions that agitate the mind of a researcher. The results of such a study are published in research journals primarily to share the new findings with a larger peer group as also to provide a sense of satisfaction and achievement to the author/s for contributing to the advancement of knowledge. An additional reason for research publication stems from the regulations promulgated by various academic authorities which assess and quantify the creative capability of a person on the basis of research publications¹. For example, the current University Grants Commission (UGC) regulations require that a research scholar must have at least two publications in a recognized journal (i.e. which has ISSN number) prior to submission of the doctoral thesis. Similarly, appointments and promotions in teaching and research institutions need a certain minimum number of publications in research journals. These regulatory measures were aimed to improve the quality of research. However, these apparently well-meaning regulations have, more often than not, become counter-productive because their mode of implementation has focused primarily on quantity, while quality is largely ignored. Consequently, a good number of 'research publications' do not provide any new knowledge since they were published only for the purpose of counting.

Another development in recent decades that has transformed, and vitiated, the research publication scenario is its increasing commercialization. With enhanced research funding and with greater number of researchers across the world, many more papers are being written for publication. This has attracted commercial players to jump into the fray, who have now begun to call the shots, while the traditional academy, society and university publications have either taken a back-seat or have willingly or unwillingly become part of the commercial publication bandwagon². The well-managed commercial game of demand and supply has resulted in spiralling escalation in the cost of journals so that individuals and libraries find their budgets too small to meet the requirements. An innovative and much publicized solution, expected to provide free access to a wider readership, has been the 'open-access' system of publication where, instead of readers, the author pays the publisher. I think this is an aberration

because the authors who do the hard work, and who should actually be in full ownership of the same, are required to pay for their work being read by others. Contrast this with good old days when authors were provided complimentary copies of the journal issue and free hard-copy reprints as incentives for contribution to the given journal. In the open access system, like the proverbial middleman, the journals obviously make substantial profits while the author loses. Even today, full text of a paper, that is not available freely on the net, can be obtained as pdf file from the author through an e-mail message. This does not cost anything to author or the reader; if this were practised widely, the money paid by author to the publisher for providing 'open access' could be better utilized for research. The present system of exorbitant prices of journals managed by commercial publishers and the high open access fees/article processing charges ensure that the commercial publication industry is always in the 'heads I win, tails you lose' situation³.

A specified minimal number of research publications for obtaining a doctoral degree or for being eligible for a faculty/scientist position is a common requirement across nations. However, increase in the number of potential authors willing to have their papers published has greater impact in developing and more populated countries. This condition, where quantity dominates over quality, has been seized by numerous unscrupulous publishers and/or individuals to start new 'on-line open-access' journals. The present era of global internet connectivity permits easy management and publication of journals even with a laptop. Many of these journals publish almost any 'research paper' for a fee, which is legitimized as article processing and/or open-access charge. Beall⁴ coined the term 'predatory journals' for publications which have little or no peer-review system and which are primarily focused on making money from their gullible prey; the editor and/or editorial board of such journals have poor or no established academic credibility. Many young and inexperienced investigators or those in dire need of fulfilling the quantitative requirement of certain number of published papers and/or of enhancing the academic performance index (API) score points fall easy prey to such predation and end up having research publications of dubious distinction to their credit while their pockets get

lighter. The menace of predatory journals is escalating alarmingly as evidenced by the ever-increasing number of e-mails received by most of the young as well as senior scientists, which invite the recipient to contribute a paper for rapid publication at 'concessional' charges or to organize a special issue or seek an editorial position. Consequently, 'Beall's list'⁴ of predatory journals and publishers continues to increase rapidly, and as noted by Clark and Smith⁵, most of them are actually managed by persons living in low and middle-income countries, particularly India, Pakistan and Nigeria, notwithstanding the US or UK addresses claimed by some of them. Such journals further misguide the gullible authors by adopting names that closely resemble well-known, established journals. Other dubious strategies adopted by predatory journals include publication of plagiarized works, claiming to have recognized scientists on their editorial boards (often without knowledge of the concerned person/s), or carrying out retractions without providing causes for the same. In parallel with growth of these 'predatory journals', and taking advantage of the obsession of many scientists and administrators with the arithmetic of impact factor, newer agencies have also appeared on the scene to provide the magical impact factor of such journals. More worrying is that some predatory journals even display impact factor on their websites and journals, claiming these to be based on data of better-known agencies like the ISI *Web of Knowledge*, *SCOPUS*, etc., when in fact they are not even listed by those agencies⁶.

Several such journals have managed to get indexed in one or the other indexing database and thus become searchable through common search engines, including even PubMed and those equivalent for disciplines other than biomedical sciences. Research publications of dubious quality that surface in such searches obviously mislead even the more quality-conscious researcher. The flood of increasing number of journals and, therefore, of research/review papers in every discipline and the general restriction imposed by almost all journals on the number of cited references in an article, present a dilemma to the authors about what to cite and what to leave out. Thanks to the increasing practice of 'cite while you write', papers of uncertain quality also get cited in better-quality publications and thus attain 'legitimacy'. This is academic pollution.

Being a global problem, predatory journals not only need widespread discussion⁴⁻⁷, but also demand regulatory actions. Our regulatory authorities like UGC, etc. need to realize the negative impact of supposedly well-meaning regulations when implemented without appropriate quality control. The system of API score, introduced by UGC, has indeed become a nightmare not only for the applicants, but also for administrators, since its structure leaves little room for quality assessment. With increasing number of young researchers in the country and with a domination of mediocrity, it is not surprising

that such rules have stimulated rapid growth of the predatory journal industry and organization of bogus conferences/workshops, etc., making India a leading location for such deplorable activities. Publishers and organizers make good money while their prey claims academic performance points, which in reality is of little academic value. Some authors may deliberately and knowingly participate in such publications and conferences; however, many others, especially the young and inexperienced investigators may not be even aware of their predatory nature. In either case, these add to academic pollution rather than promoting academic performance. UGC and other regulatory authorities, therefore, need to urgently and seriously reconsider the methods for assessing quality. Quantity can be a useful parameter only if its quality is assured.

Given the democratic freedom of speech and profession, a formal action that can reduce the menace of predatory journals may not be easy. However, as practising researchers we may help the community by spreading awareness about the problem and by consciously not citing papers published in such journals. Another simple step that can help reduce the menace of predation is that all mails from predatory journals or conferences be marked as spam so that inboxes of many others would be less cluttered with bogus invitations. The most effective remedial measure, however, is that the peers and experts find time to actually read and understand the quality and significance of the reported work, rather than go by simple arithmetic of the number of publications and their so-called impact factor metric^{1,8}.

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