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Editorial

Changing paradigm in the scientific publication process: Are we encouraging Science or Pseudoscience? Urgent need for introspection and self regulation



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Scientific research and its subsequent publication in a peer reviewed journal (preferably) are essential components of professional development in the field of medicine. Scientists have endeavored over the centuries to impress their peers and leave their mark by sharing the results of their research. Anecdotal cases of scientific misconduct may have been a rarity in the past, rather than norm, which could also be attributed to a lack of wherewithal to detect such instances. However, the last decade has witnessed an unprecedented rise in the quantum of scientific publication with a proportionate increase in the incidence of scientific/publication misconduct.^{1,2} The scientific community has been voicing its concern from time to time about the growing menace of unscientific and unethical behavior which has literally plagued the scientific publication arena from an editor's perspective.

Today, the real scientific world is at risk of getting overshadowed and inundated under the cloud of 'pseudo science'.^{3–5} This editorial is aimed at increasing awareness for the readers of this journal about the magnitude of the crisis in the field of scholarly publications, by highlighting various pertinent issues with emphasis on a relatively obscure aspect of publishing – bibliometric indices and our preoccupation with such.

While the well known forms of publication misconduct continue unabated, such as authorship issues, conflicts of interest, plagiarism in its various forms, research fraud, salami slicing, it is of concern that the entire scholarly publication process should not get hijacked.^{2–5} Today, knowingly or unknowingly, a significant proportion of stakeholders in the field of scientific publications ranging from the authors,

reviewers, editors and even the publishers often indulge in blatant violation of publication ethics in its various forms. Individual author misconduct has been known since a while now. However, increasing instances of reviewer, editorial and publisher fraud is a cause for distress for all those who wish to thrive in a genuine scientific milieu.^{2–8} One could have never imagined rigging of the peer review process! Now we have instances of journal editors being more interested in revenue generation and manipulating the entire citation process by selective publishing of articles, encouraging coercive citations and 'citation cartels' so as to artificially improve the Journal Impact Factor which would in turn attract more paying clientele authors in an Open Access (OA) format.^{6–11}

'Open Access' as a term, is misleading in its provenance, as someone has to pay the price. For commercial viability, either the reader pays or the author pays, so someone must! Although, OA journals have widened the visibility of published science to the entire world, it has also given birth to a new entity, the 'publication industry' which often views the entire process of scholarly publications in terms of profit and loss rather than quality of scientific content or benefit to the community.¹² Rapidly proliferating and ever increasing number of OA online journals/publishers (often with multiple journals in diverse fields) promising peer review at a lightning speed and guaranteed publication in the shortest possible time are classic examples of hacking of the entire publication process for generating revenue from author charges.^{12–14} These journals and publishers may be labeled as 'predatory'. Beall's list of such, in a popular but controversial blog has inexplicably gone offline since mid January 2017.¹⁵ Publishers

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of dubious repute aim to hoodwink aspiring authors, who may have a compelling reason for publishing a stipulated number of original research papers in a specific time frame to ensure career progression. Misleading journal metrics including fraudulent/dubious impact factors and indexing status add to the already complicated situation.^{8,9,13} It is fairly common these days to see one's email inbox being flooded with emails from various journal editors/publishers with suspect credentials, soliciting manuscripts. Ironically, many scholars become a party to the corrupt publication process despite having full knowledge of it, just to achieve the desired goal in their career in the shortest possible time. It seems, everything is fair in the publication war!

There are many agencies in the commercial world of publishing who are marketing unscrupulously, indexing status for any journal with suspect mechanisms to calculate metrics to achieve this hallowed status. Similarly, there are a plethora of agencies ready to assign Impact Factors of questionable credibility at a fee.^{8,9} Although the journal impact factor (JIF) calculated by Thomson Reuter has long been considered as a proxy marker for journal prestige, it has well been recognized now that the JIF has its own pitfalls.^{16,17} Not surprisingly, the impact factor obsession is prevalent amongst most of the stakeholders including even regulatory bodies and funding agencies. A medical journal, or even an article, published in a professional journal should be judged by its readers after reading it rather than basing impressions primarily on the calculated impact factor. An article by Ranjan in this issue of the Journal examines the various aspects of bibliometric indices.¹⁷

We need to introspect on certain relevant issues such as:

(a) **Should scientific publication be made mandatory for career progression?** The answer to this question cannot be straight forward or simplistic. Unlike the Western world, in India like in other developing countries, there is rarely any separate research pool of academicians who are primarily involved in biomedical research. A healthcare professional in an academic institution is expected to deftly carry out the multiple tasks of teaching students, attending to patients and simultaneously undertaking scientific research and publishing his/her findings, all in a relatively resource poor setting. It may appear intimidating and difficult to some, but fulfilling these academic commitments is not that insurmountable a task. Recourse may be made to an earlier publication in this Journal for guidance.¹⁸ All that a dedicated health care professional needs is a determined mindset to overcome administrative inertia and a balanced approach to undertake scientific research and publication. Awaiting ideal circumstances to be attained to achieve these academic objectives will always be utopian. Carpe Diem should be the driving principle for interested professionals to guide their careers.

It is of concern that mandatory publication of original research in indexed journals for career progression may promote propagation of online open access journals of suspect quality, being an easier alternative route for aspiring authors. The idea should be centered on promoting research rather than only regulating output.

(b) **What is original research?** These days, a lot of importance has been given to the publication of original research

articles going by various directives periodically issued by Medical Council of India (MCI). However, what exactly construes original research eludes many. Different journals have different ways of interpretation and categorization of articles. As a general rule of thumb, any article conveying a meaningful concept/message irrespective of the category in which it has been published, should be regarded as an original article. As we all know, a review article/editorial written by an expert is likely to convey a lot of scientific messages, more so than many articles classified as 'Original research'. Similarly, a meaningful case report can be a source of huge scientific information for several decades and be an inspiration for further studies.¹ Responsibility for qualifying an article as original article may be left to the journal editor rather than going only by the name, or even to a committee of peers when evaluating career progression on the basis of publications.

(c) **Should there be a scoring system for published articles?** As mentioned in the preceding paragraph, every article, irrespective of its category has the potential to convey a message. In an era of fierce competition for career enhancement, a genuine attempt to share a relevant scientific concept in any form should be encouraged. It is high time that regulatory bodies could consider different grades/points of accreditations for different types of articles and professional activities and a cumulative score can be evolved to be used as a marker for scientific credentials rather than compartmentalizing only to original articles.^{3,16}

(d) **The dilemma of Acceptance vs Rejection:** Acceptance rates of a significant number of reputed journals vary from 1% to 10%. It remains a big question, as to what happens to 90–99% of submissions which get rejected from any particular journal? It is suspected that many such manuscripts may eventually find their way through hijacked publication processes into suspect journals.

(e) **Is there a need for Regulation?** There are laid down international guidelines regarding ethical and non-ethical issues pertaining to scholarly publications in biomedical journals. International Committee of Medical Journal Editors (ICMJE) clearly defines the roles and responsibilities of all stakeholders of scholarly publications including editors and publishers.¹⁹ Committee on Publication Ethics (COPE), established in 1997, also has guidelines on various ethical issues including code of conduct and best practice guidelines for journal editors. A journal should ideally be member of both ICMJE as well as COPE and editors should strictly adhere to their guidelines. Ironically, there is no way to ensure that an author/reviewer/editor/publisher actually follows such guidelines. The present publication industry especially the open access online author paid journals are totally unregulated. There is a definite need to develop publication regulatory bodies with legal authority in every country in collaboration with the international organizations like ICMJE and COPE, which could initiate disciplinary action for anyone found guilty of violation of publication norms and ethics.

The situation may not be as alarming as it seems, however, caution and a circumspect approach are warranted. Guide-

lines, rules and regulations cannot ensure ethical practice in the publishing industry. It is time for healthcare professionals, as stakeholders from the scientific community, to introspect and self-regulate the entire process, lest we become party to promoting 'Pseudoscience' and the consequences, thereof. Regulatory bodies in India need to rethink the existing guidelines on academic career progression so as to encourage and motivate more health care professionals to undertake research and publication without resorting to unethical means.

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