Short Communication

Publication of Research Article: An Art or Science?

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Abstract

The publication process is a shared responsibility. Besides the writing, reviewing, publishing, and editorial teams, readers are one of the most important pillars of this process. Readers and authors cannot be dealt with separately, because most of the readers are authors. The varieties of articles and improvement in presentations reflect the rising interest and enthusiasm of writers and readers. Increasing number in critical comments and author's reply can be considered as a post-publication peer review process. Impact Factor, which was used as a proxy for the relative importance of a journal, is now being considered a misleading tool in assessing the quality of a paper or the researcher. Here, we are trying to discuss in brief the points which should be kept in mind before manuscript preparation and submission, so that our research should reach to maximum readers in an unbiased form.

Keywords: Impact factor, Publication, Research work

Introduction

Research is essential to carry science forward. However, equally important is dissemination of the research findings.[1] An original article is the backbone of a scientific journal but more important is to present the real and original research in a fair manner. Various parameters have been introduced for identifying original researches and removing repeated and biased articles. One of them is Impact Factor (IF) but in the present scenario, use of IF itself has become debatable.

Publication: The True Story

Preparation of manuscript

Writing an article can be a reality with sharp and accurate vision, appropriate efforts, and approach. Once the author decides to write on the topic of his research, the most important factor is to just begin the process. However, it is not as simple as it seems. As aptly stated by Gene Fowler, *"Writing is easy: All you do is sit staring at a blank sheet of paper until drops of blood form on your forehead"*.[2]

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Scientific literature is based on the analysis and discussions about experiments, observations, and experiences with serious and intellectual exchange of information accomplished through a variety of platforms.[3] The fact is that only published articles are considered the true gauge of academic achievement in the scholarly world as judged by funding entities, department chairs, colleagues, and peers.

Authorship

Authorship acknowledges the scholars for their work. With authorship comes the burden of responsibility. The authors are responsible for the integrity of their published data including its analysis and interpretation.[4] Unearned authorship, not fulfilling the International Committee of Medical Journal Editors (ICMJE) criteria, is unacceptable to the academic community.

One of the most egregiously abusive practices is the department chair who demands authorship. Others can be senior staff and colleagues, technicians, and even statisticians. Many of these deserve credit, but may not fulfill criteria to be listed as an author. However, these contributions may be recognized under acknowledgements. Ongoing efforts to avoid unethical authorship claims are encouraging advances in authorship standards. Due to the complexity of authorship disputes, senior scholars and mentors should help junior colleagues to avoid egregious authorship violations.

Selection of journal

The focus at this stage is to consider what is the most appropriate journal in which to publish the manuscript? Indirectly, any

journal achieving rapid, real time, ubiquitous, barrier-free perennial access of the article would increase its visibility with enhanced opportunities to attract a higher number of citations, and would be an excellent choice for publishing the article. The issues to be considered include personal goals as well as the contribution to the scientific domain. A lack of serious thought to this issue may have seriously negative consequences. Believing that inclusion of a prominent co-author will ensure acceptance of a poor quality manuscript is a common misconception and should be strongly discouraged.[5]

Additional guidelines

Adding reviewers of author's own choice is just a step to complete the submission (online submission) of the manuscript and it should not be assumed that the manuscript will only be sent to the reviewers of his choice. It should be kept in mind that review is double blind process in which the author identity is kept unknown to the reviewers and vice versa. Further, reviewers suggested by the author should be premiers in their field.

Many a times, copy-right form is not submitted along with manuscript submission. It simply shows the authors' attitude not to transfer the rights to publish the article to the journal. It may be that authors want to submit the same manuscript to more than one journal. This practice should be dealt with seriously as it not only wastes time and money of journal's editorial board as well as considered fraud in field of publication. So, one article should be submitted to only one journal for consideration and should be awaited till rejection or revision. If at all, it is necessary, previous journal should be informed about the same well before time.

Already published areas may be mentioned in brief with appropriate citation. Studies involving human subjects must first be approved by the Institutional Review Board/Institutional Ethical Committee. Such approval (as well as informed consent, if appropriate) must be included in the manuscript. Similarly, if the study involves animals, approval from Institutional Animal Ethical Committee (IAEC) is also required with appropriate statement in the manuscript.

Abbreviations should be kept to a minimum, and non-standard, difficult-to-comprehend mnemonics should be avoided. An alphabetized list of abbreviations can also be added if necessary.

Moreover, journals have their own and sometimes very unique guidelines which should be first read and understood thoroughly. Failure to comply the journal's instructions could result in rejection of the manuscript.

How reliable is the impact factor for choosing a journal in which to publish?

Impact Factor (IF) which is used as a proxy for the relative importance of a journal within its field depends upon its popularity in the world of scientific literature, the contents of the journal, especially the originality of the article, how it is valued in the world literature and how significant are its findings.[6]

In the early 1960s, along with Irving H. Sher, Eugene Garfield created the journal IF to help select journals for the Science Citation Index (SCI). IF is awarded to the journals indexed in Thomson Reuters Journal Citation Reports. A journal's IF is based on two elements: The numerator, which is the number of citations in the current year to any items published in a journal in the previous 2 years, and the denominator, which is the number of substantive articles published in the same 2 years.[7]

The IF of a journal A in a particular year Y is computed using the following formula: IF_A = all citations in Y to articles in A during (Y – 1) + (Y – 2)/all citable articles in A during (Y – 1) + (Y – 2).

The calculation of the IF is biased by many factors such as coverage and language preference of the SCI database, procedures used to collect citations at the Institute for Scientific Information (ISI), algorithm used to calculate the IF, citation distribution of journals, online availability of publications, citations to invalid articles, negative citations, preference of journal publishers for articles of a certain type, publication lag, and possibility of exertion of influence from journal editors.[8] Thus, IF is associated with inherent as well as technical flaws. IF was primarily used as a bibliographic research tool for retrieval of overlapping research for the benefit of scientists[9] but recently, it has taken a turn for the worse. The prime aim of Eugene Garfield was to eliminate the uncritical citation of fraudulent, incomplete, or obsolete data by making it possible for the conscientious scholar to be aware of criticism of earlier papers. But it has done little to reduce the citation of fraudulent data and several studies have shown that retracted articles continue to be cited and are still being used to calculate the IF.[10,11]

As IF has been criticized for manipulation and incorrect application, so, it is high time for authors to realize that IF is a misleading tool in assessing the quality of a paper or the researcher. We should make guarded use of this bibliometric measure which has become a widespread subject of controversy even for Garfield, the man who created it.

In Garfield's own words "*I first mentioned the idea of an impact factor in 1955. At that time it did not occur to me that it would one day become the subject of widespread controversy. Like nuclear energy, the impact factor has become a mixed blessing. I expected that it would be used constructively while recognizing that in the wrong hands it might be abused.*[6]

Indexing of journal

Indexing of a journal is considered a reflection of its quality.

Indexed journals are considered to be of higher scientific quality as compared to non-indexed journals but indexation of journals has become a debatable issue because of some lacunae. In fact, not all journals indexed even in Index Medicus/MedLine/PubMed are indexed in the Thomson Reuters Journal Citation Reports. Similarly, not all journals indexed in Thomson Reuters Journal Citation Reports and consequently have an IF, are listed in Index Medicus/PubMed/MedLine, i.e., IF is not available for all indexed journals and vice versa.[12]

Conclusion

Although challenging, writing manuscripts to be published in scientific journals should be encouraged not on the basis of IF or indexing of journal but on the basis of original and fair work. Further, unearned authorship practices should be discouraged and authors must comply with the ethical issues related with publication. Senior scholars and mentors should help junior colleagues understanding the value of copyright and consent forms and different instructions to be followed for different journals. Unbiased publication of research work will help in disseminating scientific achievements leading to sharing of experiences and personal successes for scientific progress. Moreover, the published article contributes to the general public good by encouraging the exchange of experience and innovation. So, we should aim to make publications free from plagiarism and possible worldwide dissemination of fair research work.

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