Letter to Editor

Obsessional pursuit for high-impact factor

Dear Editor,

The Journal impact factor (JIF) has become an important indicator of the quality of research publication. Although many have raised concerns about the use, misuse, and abuse of JIF, still it is used as a surrogate marker to rank the research, research articles, and the researchers.[1] We believe that JIF is a distorted value system and its use exerts a detrimental influence on scientific writing output. The JIF is a broad-brush indicator of the quality of academic journals and was never intended to be used to evaluate the credibility of an individual research article, author, or research scientist; but unfortunately, it is widely misused in this way. There is a great degree of mutation and manipulation in the evaluation of JIF, and we would like to share our views in this aspect.

The JIF is actually a measure of how frequently the articles published in the respective journal are cited. However, unfortunately, the impact factor (IF) of a journal is not statistically representative of its individual articles, and the poor correlation between the JIF and the actual citation rates of its articles has been previously reported.[2] Foremost, the JIF is a journal-level metric and not an article-level metric; hence, its use to determine the impact of a single article is flawed. Second, the JIF relies on the mean, not median, citations and hence few highly cited papers could produce a spike in the measure. Recent example is of a journal *Acta Crystallographica Section A: Foundations of Crystallography* (pISSN 0108-7673) which had an IF of 2.051 in 2008, which changed to 49.926 in 2009 and then increased to 54.333 in 2010 and the IF in 2014 was 2.3074, reason being a single review article receiving a large number of citations.[3] Moreover, some papers are cited multiple times for negative reasons, and yet, these negative citations contribute to improving JIF. An article published in *Science* revealed that several studies proven to be fraudulent were not retracted and continue to be cited.[4] The JIF can also be distorted by the positive feedback. This means many times, the articles are cited not based on actual reading but by their citation in other articles. Researchers cite them, simply to increase the bibliography of their article, reviewing them. This distorts the actual citation of the article. Journals are also under continuous pressure to raise their IF which can lead to editorial misconduct and bias by requesting authors to include references from previously published articles in their journal. Such practice was recently brought to light where three Brazilian journals conspired to cite each other's published papers in a mutual effort to increase their JIF.[5] Such *coercive citation* is a disturbing trend and defeats the very aim of research and learning.

Misuse of the JIF is a widespread phenomenon with complex causes. Based on the notion that a journal is representative of its articles, JIF has increasingly been used as a proxy to evaluate the quality of research papers and their authors. This, in turn, has led to the IF-based assessment for the appointment, research grant allocation, and academic advancement of researchers.[6] Perhaps, the most important drivers of the JIF misuse are scientists themselves who attempt to publish their work in a journal with higher IF and are more concerned about "where they publish rather than what they publish." The continuous pressure for publication in high IF journal leads to *performance anxiety* among researchers and they indulge in unethical practices such as data falsification and fabrication.[6] Moreover, taking advantage of such existing IF craze and the prevailing *publish or perish* culture, many agencies have started allocating fake IFs to the journals on payment basis which may resemble the original IFs. These bogus IF agencies seem to be hand in glove with "predatory journals" displaying fake IFs on their websites. The sole aim of these dubious journals is to earn from publishing fees they charge from the authors.[7] Due to this *demand and supply* culture, budding researchers and even academic institutions fall prey to them. However, some researchers knowingly use sham publications and fake "scientometrics" for their academic advancement based on the poor-quality articles posing a serious threat to the academic standard and integrity.

To stop JIF misuse, the researchers should put a halt on the relentless chase for IF, rather focusing on originality and quality of their research. In this regard, the American Society of Microbiology, on July 11, 2016, announced to remove the IF from its journals and website, as well as from marketing and advertising, a move which was appreciated by many.[8] The misuse of the JIF to evaluate the credibility of an individual scientist or a research article has been decried in a consensus statement from the San Francisco Declaration on Research Assessment (DORA).[9] The aim of DORA was to put an end to the practice of using JIF as a valuation metric of individual researchers. The declaration states that "the IF

must not be used as a surrogate measure of the quality of individual research article, to assess an individual scientist's contributions, or in hiring, promotion or funding decisions."

A comprehensive scientific evaluation of an article requires a multidimensional approach and is beyond the scope of a single metric such as JIF. Although a diverse range of parameters, namely h-index, Y-factor, Eigenfactor, Altmetric widget, can be used as evaluation metrics, there is no one size that fits all. Hence, the administrators should be educated and well informed that JIF is not an appropriate metric to measure the quality of any journal, its scientific content, or the credibility of the individual researcher. While evaluating the performance of a researcher, academic administrators should focus on contribution and content rather than on publication venue.

Remember that the time-tested traditional method of evaluating the research worthiness of authors continues to be peer review, and there is no substitute to it.

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Conflicts of interest

There are no conflicts of interest.

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