

## Assessment of the Quality of a Journal

Research is quite essential for the growth and development of any science including the medical science. Only through valid scientific research the new ideas get tested. In order to achieve its goal of becoming useful to the community, the research has to be translated into practice. The role played by the scientific journals in the translation of research into clinical practice need not to be emphasized as the publication of an article is the only available path.

There has been a dramatic increase in the numbers of medical journals published in the last one decade and there has been an increasing demand for the scientific articles. Every year more than 6 million scientific medical articles get published. Despite this gargantuan volume of medical literature, less than 15% all articles published on a particular topic are useful. Even articles published in the most prestigious journals are far from perfect.<sup>[1]</sup>

### *Why anybody writes an article?*

Conveying one's research findings is an exciting moment for any ardent researcher, because it represents the outcome and recognition of his honest effort. Another potent stimulus, rather a compulsion for anybody to write a scientific paper is an albeit, misplaced, universal emphasis on 'publications' as a criteria of determining competence and suitability for hierarchical promotions by the Medical Council of India. Journals publishing only such papers written solely for MCI purposes may be classified as poor quality journals.

### *How the quality of a journal is assessed?*

Impact Factor (IF) of a journal is the most common bibliometric quantitative parameter in use today and has mostly replaced subjective criteria used in the past to define journal quality and prestige. It is thus a dynamic parameter and an indicator of the editorial quality of a journal.<sup>[2,3]</sup>

It was first proposed as a useful instrument for planning library choices, programming personal journal buying and reading, and directing scientific journal editors in their editorial strategies. Now, it is also being considered a putative index of the scientific production of a single author.<sup>[4]</sup>

Journal IFs differ from discipline to discipline and range from 0 for a journal whose articles are not cited in the previous 2 years to 46 for a journal where the average recent article is cited 46 times per year. The impact factor reflects the citation rate of the average article in a journal and not as specific article. IF averages over all articles and thus underestimates the citations of the most cited articles, while exaggerating the number of citations of the majority of the articles. Many parameters influence the citation rate of a particular journal's articles and, therefore, its IF. These include the visibility and size of the circulation of the journal including availability of electronic formats and options for on-line search and retrieval. Other things to consider are editorial standards especially rapid and effective peer-reviewing and assort time lag between acceptance and appearance in print. The number of self-citations



and citation density (the ratio of references to articles) and also the inclusion of many review articles containing hundreds of references to recently published articles will boost IF.<sup>[5]</sup>

Other properties of a medical journal that can be assessed include total circulation; readership numbers and surveys; quality of the editorial board, staff and peer reviewers; number of manuscripts received, percentage accepted, and turn around; number of paid subscribers; advertising revenue; listing on Medline; international distribution; cost to the reader; and page or peer-review charges to the author.<sup>[6]</sup> But the use of IF as a measure of scientific merit of research has been challenged. Hansson (1995), in criticizing the suggestion that the merit of a report is based on publication in journals with an IF greater than 2, noted that many medical specialties have no journal with an IF greater than 2. He also noted that it can be difficult to publish clinical studies that cite work published in the previous 2 years fast enough to impact the IF. Thus, the IF tends to treat clinical journals as less important. He and others have proposed that it be rejected as a guide to the quality of research.<sup>[7]</sup>

Despite of the fact that there is absolutely nothing incorrect with the calculation of the ratio, the "IF" is misnamed and misleading. Being misnamed and misleading, the "IF" has been misused. It is being held out as a measure of the importance of a specific journal article and the journal in which the article appeared. By extension, the "IF" is also being misused to gauge the relative importance of individual researchers, research programs, and even the institution hosting the research.<sup>[8]</sup> It has also been suggested that half the literature published is redundant as it is never cited.<sup>[9]</sup> Even Garfield, the originator of the IF, states that it is incorrect to judge an article by the IF of the journal.<sup>[10]</sup> However IF continue to be used to evaluate the quality of journal and is finding an increasingly influential role within health science. Authors and academic institutions continue to be judged and funded, simply on the basis of publications in a high impact journals.

### **Status of Indian Journals:**

Majority of the Indian biomedical Journals are neither indexed with Medline/Science Direct or full text so the same are available freely on line to facilitate citation by any author. In India we have hardly any journal that has an IF greater than one. Hence there exists always a gap or deficit in citing any Indian work by the next researcher. However for the past 10-12 years, ever since the establishment of Indian Electronic Biomedical Database, (IndMED and MEDind) the scenario has been changing. Free full texts of almost 100 Indian biomedical journals from year 2000 are available online. Even the Indian Citation Index has been published, but will take time to be an effective tool. Now, the issues already rose about IF, and its use to assess quality of an article and a journal will start appearing in our Indian scenario. Having been aware of all the pros and cons of these controversial issues, we are always at an advantage of overcoming these problems before they are born. It is left to our wisdom to make the optimal use of the IF.<sup>[11]</sup> There is still much work to be done to develop truly objective measures of scientific quality. Like all measures, the use of IF has to be tempered with knowledge of its limitations and common sense.<sup>[12]</sup>



### Newer Indexes for Research Assessment:

Bibliometricians and scientists have been devising different indexes to assess the research impact in science domain especially since the last decade. Bibliometric indexes mainly based on citation and publication analysis are the emerging and the most used tools to perform research evaluation of people and their contributions making the citation, the cornerstone of scientific impact. But there is seen a high and increasing interest in how to assess objectively the research performance of research teams and individual scientists in the recent past. Today many indexes like h-index, g-index, hg-index, m-index, Tol-index, etc. are being used for assessing the scientists and their researches, but the question again is that-which indexes should be used for assessment?<sup>[13]</sup>

### Final Word

IF has one specific meaning: it is a clear measure of the extent to which a given journal functions as a connector of researchers in a specific field. This is one (but only one) critical function of medical journals.<sup>[6]</sup> Authors should submit their research results and manuscripts to journals that are easily available and are read by their peers (the most interested audience) and pay less attention to journal impact factors.<sup>[5]</sup>

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