

# DESPITE MISUSE AND ABUSE, JOURNAL IMPACT FACTOR WILL RETAIN ITS IMPACT AND WON'T FADE AWAY SOON

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Debate on the usefulness or otherwise of Journal Impact Factor continues and in fact it is now being increasingly discussed after the announcement of DORA declaration. The DORA statement was approved by 150 scientists and seventy-five scientific organizations during the American Society of Cell Biology meeting held at San Francisco in December 2012. Main objective of DORA was to stop the use of journal impact factor (IF) so as to correct distortions in evaluation of scientific research to judge an individual scientist work. DORA Guidelines call for eliminating the use of Journal Impact Factor in Funding, appointments and considering scientist for academic promotions ([www.ascb.org/SFdeclaratin.html](http://www.ascb.org/SFdeclaratin.html)). It was pointed out that Impact Factor was initiated to measure the journal quality rather than assess and evaluate the individual scientists. Even some scientists are of the view that this Impact Factor mania makes no sense.

Impact Factor, it may be mentioned here, is a citation based metrics based on the average number of times an article published in a journal has been referenced to by authors in other journals<sup>1</sup>. The Impact Factor was developed in 1960s by Eugene Garfield of the Institute for Scientific Information (ISI) in USA. IF is calculated taking into account the number of citations to articles published in the journal in the last two years according to the following formula:

$$IF = \frac{\text{Number of citations in a given year}}{\text{Number of source articles in the previous two years}}$$

A major drawback of this calculation and evaluation is that ISI Thompson uses their own data base having over nine thousand journals to calculate the IF and any citations in the journals not in their database are not included. Moreover one of the objections is that ISI is not entirely transparent about criteria for inclusion. In 2009 Diamandis predicted that journal impact factor will fade

away soon<sup>2</sup> while Favaloro had a different view point<sup>3</sup>.

In a later communication Favaloro EJ while endorsing the DORA recommendations in its letter and spirit as regards eliminating use of IF for hiring, promotion or funding scientists, again persisted with his earlier viewpoint that Impact Factor will not go away soon for various reasons. Publishers and Journal Editors continue to anxiously await the newest value IF of their journal. This will continue for many years to come. He felt that despite overuse and misuse, Journal Impact Factor is not all bad and it is not going away any time soon<sup>4</sup>. Writing on the importance and relevance of Impact Factor in 2007, we had also maintained and still believe that "despite criticism Impact Factor is an indication of standard of a Journal. However it is Not and should Not be the only criteria to judge the standard of a medical journal"<sup>5</sup>. Sultan Meo suggested that scientists should choose an appropriate indicator after looking at the purpose of evaluation, how the results will be used and chose a metric that is acceptable to all stakeholders and is free from any bias<sup>6</sup>.

WAME had suggested that Journal editors should look beyond the Impact Factor, look at other indicators of journal visibility, circulation, number of manuscripts received and published ever year besides distribution of citations<sup>7</sup>.

As the Impact Factor got more and more importance, now some editors have started manipulating and artificially boosting their journal Impact Factor though misuse of Impact Factor is destructive and not a good sign to keep science healthy. One of the strategies they have adopted is that Journal publishers use Reviews to increase their citations while some journals also publish commentaries which increase their self citations<sup>8</sup>. Moreover a paper may be cited relatively more frequently when it is easily accessible through online or providing free access to members of a society.

**Table 1: Biomedical Journals from Pakistan covered by Thompson/ISI Web of Sciences 2013<sup>12\*</sup>**

S.No	Title	ISSN	Total Cites	Impact Factor
1	Pakistan Veterinary Journal, PAK VET J	0253-8318	584	1.365
2	Pakistan Journal of Agricultural Sciences, PAK J AGR SCI	0552-9034	325	1.240
3	International Journal of Pharmacology, INT J PHARMACOL	1811-7775	572	1.202
4	Pakistan Journal of Pharmaceutical Sciences, PAK J PHARM SCI	1011-601X	545	0.947
5	Pakistan Journal of Botany, PAK J BOT	0556-3321	2347	0.872
6	International Journal of Agriculture and Biology, INT J AGRIC BIOL	1560-8530	1292	0.808
7	The Journal of Animal & Plant Sciences, J ANIM PLANT SCI	1018-7081	240	0.638
8	Journal of Animal and Veterinary Advances, J ANIM VET ADV	1680-5593	965	0.365
9	Pakistan Journal of Zoology, PAK J ZOOL	0030-9923	384	0.309
10	Journal of the College of Physicians and Surgeons Pakistan, J Coll Physicians Surg Pak	1022-386X	703	0.301
11	Pakistan Journal of Statistics, PAK J STAT	1012-9367	81	0.252
12	Pakistan Journal of Medical Sciences, PAK J MED SCI	1682-024X	349	0.101
13	Journal of Pakistan Medical Association, J Pak Med Assoc**	0030-9982	1152	0.409

\*Based on 2012 data

\*\*JPMA IF taken from the JPMA website

Some scientists believe that alternative metrics should be used for measuring journals impact or quality as mentioned by DORA like 5-year Impact Factor, the Eigen Factor (<http://www.scimagojr.com>) and h-index. But it must be remembered that all these also have their drawbacks and limitations<sup>9</sup>. H-Index can also be manipulated by the authors themselves by self citations. H index of the same scientist may vary broadly according to the various databases i.e. Google Scholar, Scopus or Web of Sciences<sup>10</sup>. H-Index has certain other draw backs as well like it does not distinguish the position of a scientist in the sequence of authors in an article having too many authors. Some scientists advocate the use of M- index i.e. h/n where "h" is the H-Index and "n" is the number of years since the first published paper. It adds an age related weightage to the each cited manuscript. Hence it is suggested that it should be preferred over H-index.<sup>10</sup> Some researchers have suggested that h-index value can be recalculated after exclusion of self

citations and this can provide a more reliable figure of the impact of publications. However there is no dearth of people who believe that IF should be discarded altogether. They believe that "The impact factor is a painless waste of time, energy and money, and a powerful driver of perverse behaviors in people who should know better. It should be killed off, and the sooner the better. Academics community should consign the IF to the dustbin"<sup>11</sup>.

### **Strategies to increase Impact Factor**

There are many ways the Editors and publishers can use to increase their Journal Impact Factor and some of these strategies are as under:

- Do not publish supplements
- Encourage review papers and papers introducing new techniques.

- Ensure early publication of those papers which are likely to be cited more preferably in the beginning of the year.
- Improve quality of papers, and make sure that papers are available electronically as early as possible<sup>11</sup>.

Now some editors in Pakistan too have also started requesting their reviewers and authors to cite articles published in their own journal to facilitate acceptance of their manuscripts. This shows how the editors try to artificially boost their journal's impact factor. At present as per the latest Journal Citation Report released by Thompson/ISI Web of Sciences, the list of biomedical journals covered from Pakistan is shown in Table 1.

This list includes just three medical journals i.e. Journal of Pakistan Medical Association (JPMA) Journal of College of Physicians and Surgeons Pakistan (JCPSP) and Pakistan Journal of Medical Sciences (PJMS) with their current Impact Factor. Some more journals from Pakistan have applied for IF, hence some of them might be included in the list from the next year.

Higher Education Commission of Pakistan (HEC) has much better criteria for evaluation of biomedical journals as compared to some other Pakistani institutions. HEC has included different journals in different categories and only those journals which have got Impact Factor have been included in W category. As per HEC guidelines the faculty members in various universities are required to publish their manuscripts in Impact Factor Journals to be considered for further promotion in their academic career with the result that now the journals with Impact Factor are getting an increasing number of submissions and there is a long waiting list for processing and publication.

On the other hand the Journal editors are also faced with a dilemma. Despite the fact that the number of citations from their journals has progressively increased every year but their Impact Factor has decreased because they published more manuscripts during the year. Hence as per the IF calculation formula, this has resulted in decrease in their Impact Factor. Hence the editors are now looking at various options to increase their Journal Impact Factor. This has now prompted some editors not to entertain case reports; or refuse to accept manuscripts for further processing and peer review if in their judgment; these papers have little chance of any citations which is certainly not liked by the authors who are keen to get their manuscripts published as early as possible. As such both editors and authors find themselves trapped in this vicious cycle.

A similar situation had arisen in Brazil some years ago. An agency in Brazilian Education Ministry called CAPES evaluates graduate programmes in part by the

IF of journals in which students publish their work. New Brazilian journals had the lowest rank; hence they did not attract more submissions. Brazilian editors have campaigned for years to change this system by CAPES which has adamantly refused. Hence it was in 2009 that Editors of eight Brazilian journals decided to take measures to improve their Citation. The strategy these Brazilian editors chalked out was to join hands indulging in citation stacking which is defined as "When authors try to boost the citation of their own papers". When Thompson Reuters detected this, four Brazilian Journals were among 14 to have their Impact Factor suspended for a Year for citation stacking. They included 1. Rev Assoc Med B 2. Clinics 3. J Bras Pneum 4. Acta Ortop Bras. These journals appealed against this decision but without any success<sup>13</sup>. Many Editors in various countries and Pakistan being no exception are now known to be coercing authors directly or through reviewers to cite the papers published in their journals to improve their citation rate. The step is considered unethical and undesirable.

In view of the above, whatever one might say, at present Editors and Journal publishers anxiously await the publication of Journal Citation Rating released by Thompson Reuters Web of Sciences annually to know their Impact Factor. Hence, till such time that any other metrics becomes popular and is accepted by the scientific publishing community, Journal Impact Factor will retain its Impact for many years to come and is not going to fade away soon.

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