

## Editorial

# Impact factor of *Indian Journal of Gastroenterology* for the years 2005 and 2006

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**Objective:** To determine the impact factor (IF) of the *Indian Journal of Gastroenterology* (IJG) for the years 2005 and 2006. **Methods:** For each of the two years, the number of citations received during that year in the journals included in the Science Citation Index (SCI), obtained by searching the online SCI database, divided by items published in the IJG in the previous two calendar years was determined. Self-citations in the IJG of the items published during the preceding two calendar years were determined by manual search. IF was calculated from these data. **Results:** The IF of IJG for the year 2005 was 0.384 and that for the year 2006 was 0.667. The latter may be an underestimate because some citations during the year 2006 may not yet have appeared in the database. These values were higher than the previously reported IF of IJG of 0.192 in 1990. **Conclusion:** The IF of IJG has shown significant improvement over time. [*Indian J Gastroenterol* 2007;26(Suppl 1):S4-S6]

Impact factor (IF) is one of the measures for assessing the scientific contribution of a journal.<sup>1</sup> It is based on the premise that if the papers published in a particular journal are cited more frequently in the scientific literature that follows, then that journal has had a greater impact on the scientific field that it relates to. The IF of various journals included in the *Science Citation Index* (SCI) are published as Journal Citation Report by Thomson.<sup>2</sup> This publication does not provide IF for journals that are not included in the SCI; however, for such journals, IF can be calculated manually.<sup>3</sup>

We had previously calculated the IF of the *Indian Journal of Gastroenterology* (IJG) for the years 1987 to 1990.<sup>4</sup> We decided to look at this parameter for IJG for recent years to determine whether it had changed since then.

## Methods

### Definitions

**Citation:** Citation indicates the fact that a docu-

ment has mentioned, or made reference to, another document.

**Source item:** A source item is an item published in a scientific journal. These may be original substantive articles, editorials, reports of meetings, reviews, etc, but not letters, news and errata.

**IF:** The IF of a journal for a particular year is defined as the ratio of the number of citations received in that year by the articles published in that journal in the preceding two calendar years and the total number of source items published in it in these two preceding years. For example, if a journal published a total of 40 source items in the years 2002 and 2003, and these articles are cited 98 times in the year 2004, then the IF of that journal for the year 2004 =  $98/40 = 2.45$ .

### Data collection

From the table of contents of the IJG for the years 2003 to 2005, the number of source items published in each of these years was counted. These included editorials, original articles, special articles, controversies in gastroenterology, debates, case reports and case snippets. Items such as letters, news, errata, conference abstracts, and book reviews were excluded.

Citations in the SCI journals during the years 2005 and 2006 to each of the articles published in the IJG in the preceding two years were determined by search of SCI 'Web of Knowledge' database;<sup>5</sup> this was undertaken during the last week of January 2007. In addition, the references lists appended to articles published in the IJG in the years 2005 and 2006 were scanned carefully for citations that referred to items published in the IJG in the previous two years.

### Calculation of IF

From the data collected, the IF of IJG was calculated for the years 2005 and 2006 using the following formula:

$$IF_y = (X_1 + X_2) / (Y_1 + Y_2)$$

**Table 1: Impact factor calculation for years 2005 and 2006 for Indian Journal of Gastroenterology (IJG)**

Parameter	2005	2006
Citable items published in IJG in year 'y-2'	90	87
Citable items published in IJG in year 'y-1'	87	90
Total number of citable items published in IJG in preceding two years	177	177
Citations received in SCI journals in year 'y' by items published in IJG in preceding two years	57	103
Citations received in IJG in year 'y' by items published in IJG in preceding two years	11	15
Total citations received in year 'y' by items published in IJG in preceding two years	68	118
Impact factor of IJG for year 'y'	0.384	0.667

Where  $X_1$  = number of citations in SCI journals in year y for items published in IJG during years y-1 and y-2;

$X_2$  = number of citations in IJG in year y for items published in IJG during years y-1 and y-2; and,

$Y_1$  and  $Y_2$  = number of source items published in IJG in years y-1 and y-2, respectively.

#### IF of other Indian journals

IF for the year 2005 for Indian journals included in SCI was obtained from Journal Citation Reports 2005.<sup>2</sup>

### Results

Table 1 shows the number of citations in each of the two years under consideration and the number of citable items published in the preceding years. The IF of IJG for the years 2005 and 2006 was found to be 0.384 and 0.667, respectively. These values were higher than the IF of IJG for the years 1987 (0.087) to 1990 (0.192), which have been reported previously.<sup>4</sup>

Table 2 provides data on IF of other Indian biomedical journals included in SCI for the year 2005, the latest data available.

### Discussion

Our data show that the IF of the *Journal* has improved as compared to the values observed during the period 1987-1990. Further, even during the two years under consideration, the IF showed a rise during the latter time period.

The IF of a journal, i.e., the number of times

**Table 2: Impact factor of Indian biomedical journals included in Science Citation Index during year 2005**

Journal	Impact factor
Journal of Genetics	0.883
Indian Journal of Medical Research	0.869
Current Science	0.728
National Medical Journal of India	0.614
Neurology India	0.385

Source: Journal Citation Reports 2005

an average item in it is cited over a 2-year period in the journals included in SCI, is considered as a measure of its impact on scientific literature. During the period 1987 to 1990, the IF of IJG was quite low and compared quite poorly with that of other journals in the field of gastroenterology. However, it seems to have improved since then, indicating that the IJG is doing better than in the past.

How does IJG compare with the other Indian scientific journals? The Journal Citation Reports for the year 2005 included 49 Indian journals, including five biomedical journals. These 49 had impact factors varying from 0 to 1.031. The IF of IJG for the year 2005 is placed between those of the journals ranked 17 and 18. Thus, it may be possible for IJG to join the select SCI journals.

What could be the reasons for a modest IF of IJG? Besides the quality of material published in a journal, some other factors influence IF. These include the frequency of publication, popularity among peer groups, number and nature of articles published, circulation of the journal among international libraries and hence availability to authors, etc. The improvement of IF over the last few years may be related in part to full access to all *Journal* contents online, and to increase in its frequency from 4 to 6 issues per year. The increase in IF may also be related to improvement in the *Journal's* publication standards and to the quality of research published. Further, an increase in the number of articles published in the journal by authors outside India may have contributed to this change.

What are the limitations of our study? The count of citations received in 2006 by the articles published in the IJG in the preceding 2 years may be incomplete since the publishers of SCI may not have received some of the journals published towards the end of the year 2006 by the time we searched this database. However, the effect of this should be minor. Further, this would mean that the true IF would, if anything, be higher than

our estimate. Second, it was not possible for us to compare the IF for 2006 of IJG with that of other journals since those data are not available; such a comparison, which will be possible soon, will be quite interesting.

In conclusion, the IF of IJG is showing an upward trend. This may indicate that the *Journal* has come of age.

### References

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