

## Impact factor: Use and misuse

Sir,

We were happy to see a letter in the November issue on the Impact Factor (Kumar P, Rastogi S, Kumar A, Goyal R. Impact Factor – the reputation gauge of the journals: An overview. *European J General Dentistry* 2012;1:121). We congratulate the authors for writing a letter about the impact factor (IF), which measures the quality of the journal and its research article. Here we are looking at the limitations of the Impact Factor. The impact factor is only one of the three standardized measures (IF, immediacy index, and citation half-life) created by the Institute of Scientific Information (ISI), which can be used to measure the way a journal receives citations for its articles over time.

The value of the impact factor is affected by sociological and statistical factors. The sociological factors include the subject area of the journal, the type of journal (letters, full articles, reviews), and the average number of authors per article (which is related to the subject area). Statistical factors include the size of the journal and the size of the citation measurement window. In general, fundamental and pure subject areas have higher average impact factors than the specialized or applied ones. The variation is so significant that the top journal in one field may have an impact factor lower than the bottom journal in another area. For example, the highest IF of most of the journals in dentistry for the year 2011, was in the range of 1-4, whereas, the highest IF for a medicine journal for 2012 was 53.298, for the *New England Journal of Medicine*, and lowest was 2.057 for *Internal Emergency Medicine*.

Closely connected to subject area variation, is the

phenomenon of multiple authorship. The average number of collaborators of an article varies according to the subject area. Not unsurprisingly, given the tendency of authors to refer to their own study (self-citation), there is a strong and significant correlation between the average number of authors per article and the average impact factor for a subject area.<sup>[1]</sup> Therefore, comparisons of impact factors should only be made for journals in the same subject area.

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