Impact Factor: The Holy Grail of Research

Sir,

Evaluating the quality of scientific research is a tricky question, which probably does not have a single solution. Impact factor was conceptualized by Garfield as a step toward the same though he himself acknowledged that the impact factor by itself might not be the panacea for evaluation of scientific research.\[1\] A recent consensus statement, Declaration on Research Assessment, 2012 proposes to reduce the over-reliance on impact factor to judge a scientific contribution and also evaluation of the scientist himself.\[2\] The multiple limitations of impact factor as a bibliometric index include uneven contribution of individual articles to a journal’s impact factor, technical bias including selective journal self-citation, not correcting for self-citation rates, inclusion of the specific type of articles and use of a short period like 2 years for computation of the index while a longer period might provide a better picture, limitation of the database used, preference for publications in English language, nature of specialty in which the research is conducted (younger sciences vs. established sciences, broader vs. narrower specialty, basic science vs. clinical science, etc.) and over-reliance on citation rate, which is an imperfect indicator by itself (for example, review articles would typically be more cited than original research articles and longer articles tend to be cited more commonly than shorter articles).\[3,4\]

Greater dependence on impact factor has resulted in
ethical as well as practical issues including benefits to selected journals, disproportionately large benefits to selected scientists, reduction in high risk research that leads to unexpected breakthrough findings, delays in the communication of scientific findings, and ethical misconduct by both researchers (authors) as well as editors of journals (for example, fabrication of data and promotion of self-citation in their respective journals).\textsuperscript{3,4}

It is easy to vilify impact factor based on numerous arguments. However, what are the alternatives available? Better processes and criteria to evaluate scientific research; reformation of review criteria for grant procurement, promotions, etc., concurrent use of multiple bibliometric indices such as impact factor, H-index and Eigenfactor; use of specialty-specific impact factors that better portray the position of the journal within its own specialty (thereby avoiding unfair comparison with a more broader scoped journal likely to have a better citation rate) and ethical research as well as publication practices might provide a sustainable solution to this vexing problem.\textsuperscript{3,4} Research in bibliometric indices is a necessity to provide a better solution to the over-reliability on impact factor as a bibliometric index.

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