EDITORIAL

The *International Tinnitus Journal* and the Impact Factor

A recent editorial, "The Misused Impact Factor" (*Science*, vol. 322, October 10, 2008), by Kai Simons, president of the European Life Scientist Organization and currently at the Max Planck Institute for Cell Biology, has stimulated me to share with our subscribers and the tinnitus community—both professionals and patients—how the issue of misuse of the impact factor (IF) applies to the *International Tinnitus Journal* (*ITJ*).

In general, the impact of reports of clinical and basic science work in medicine is for its ultimate translation to increase the accuracy of clinical diagnosis and efficacy for treatment of patient complaints. A standard of excellence is necessary to provide to all (basic scientist, clinician, and patient) a source of reference for confirmation of both method and results that are published.

Within the last century, a quantitative measure, the IF, based on the number of times a publication is cited, has been developed from the Science Citation Index database and developed by the Institute for Scientific Information, part of the Thomson Corporation (i.e., Thomson Reuters). The IF is a measure of the frequency with which the "average article" in a journal has been cited in a given period. Increasingly, the IF is being referenced, replacing informal indices of peer recognition used in the past by the scientific and medical communities.

Simons points out the misuse of the original goal of the IF: evaluating a manuscript for both its accuracy and its contribution to fields of research and assistance in formulating decisions for funding scientists' research and appointments and promotions to research positions. The algorithm by Thomson Reuters, extracting references from more than 9,000 journals and calculating the IF for each journal (taking the number of citations of articles published by the journal in the previous 2 years and dividing it by the number of articles published during those same years) is not a simple measure of quality, and it can be manipulated by journals. Examples are the influence on the IF of citations for review articles, which exceed those for primary research papers. Consequently, reviews increase a journal's IF, and journals increase in an issue the number of reviews that can, at times, approach or reduce the number of primary research papers.

Furthermore, inclusion into the numerator of the IF calculation of commentary-type articles, citations of retracted papers, and articles containing misleading or, possibly, falsified data may inflate the IF. The denominator includes only primary research papers and reviews. The significance of the IF to the scientific community is its application for assessment of individual papers, scientists, and institutions. Misuse of the IF lies in governments' application of bibliometrics to rank universities and institutions, using the IF for hiring, faculty promotion, granting of awards, and rating papers without reading them. This results in influencing the author in the choice of journal for initial manuscript submission and a subsequent top-down hierarchy for ultimate submission of a manuscript and its acceptance for publication after rejection.

Since its inception, the IF has evoked controversy and has been acknowledged to have been applied in an increasingly diverse manner. Seglen [1] wrote that the IF should not be used for evaluating research. Consider in this regard that the evolving discipline of tinnitology is critically dependent on original basic science and clinical research reports, both positive and negative. The availability of the *ITJ* for publication of original manuscripts provides among professionals involved with tinnitus an accelerated distribution of advances in the science of tinnitus and subsequent clinical translation and application for tinnitus patients.

Significant in the context of misuses of the IF and its significance (as mentioned) is a review of the IF rankings of otorhinolaryngology journals and comparison to journals with a high IF. In a student review of journals obtained from Student Doctor Network Forums [2], fewer than 50 journals were found to have an IF of greater than 10 and fewer than 150 with an IF of greater than 5. *Nature* and *Science* both were found to have an IF higher than 20 and the *New England Journal of Medicine* an IF of 44.016. Most "top" journals in specialties "top out around 5" [3].

To be considered is that some journals have a low IF but can be prestigious for a society. A review of 15 otorhinolaryngology journals in 2006 (obtained October 25, 2008, from the Journal Citation Report 2005, updated May 7, 2008) reveals an IF average of 1.4987. The first ranked was the *JARO-JASSOC Res Otol* with an IF of 2.522; ranked number four, with an IF of 1.816, was the *Archives of Otolaryngology*; ranked number six, with

an IF of 1.736, was *Laryngoscope*; also ranked number eight, with an IF of 1.339, was *Otol Neurotol*. In 2007, Elsevier listed *Otolaryngology–Head & Neck Surgery* with an IF of 1.338 and a rank of nine, and the *International Journal of Pediatric Otorhinolaryngology* rated an IF of 0.851.

A specific consideration, regarding the significance of the IF, is the reported considerable variation in the ranking of journals when calculated by the 5-year IF and the low IF values in specialty journals. Furthermore, clinical experience teaches that a low IF and ranking do not detract from the significance of a publication or the journal, as evidenced in the IF scores cited earlier. Yes, a method of quantification to determine accuracy and contribution to the field is necessary, but misuses must be avoided if they create a game between citation numbers, an administrative hierarchy of elitism, and failure to adhere to the goal of the IF.

Specialty journals have a role that supercedes the IF score: prioritization and publication of manuscripts that may experience delay or rejection (or both) in general otolaryngology journals. Publication in the *Otolaryngology–Head & Neck Surgery* (with an IF of 1.338) or the *International Journal of Pediatric Otorhinolaryngology* (with an IF of 0.851) is no less significant than publication in the *Archives of Otolaryngology* (IF, 1.816) or *Laryngoscope* (IF, 1.736). Comparison of IF scores to those of *Nature* and *Science* avoids the primary issue—specifically, providing to the professional a quality manuscript to be translated for the advancement of science and clinical benefit of patients.

All the misuses cited here are found to have application to *ITJ*. Initial arguments questioned the need for a specialty journal dedicated to tinnitus and cited the paucity of quality manuscripts qualifying for publication. The history of the *ITJ* since 1995 and its record of high quality—having received international recognition—support the excellence of *ITJ* and its contributions to tinnitology. There is no paucity of quality manuscripts qualifying for publication. The process of the IF does not consider that tinnitology is an evolving discipline. A new discipline benefits from advances in a specialty journal that integrates the efforts of multiple disciplines involved in the basic science and clinical aspects of the symptom of tinnitus for the ultimate benefit of tinnitus patients.

ITJ provides a platform for publication of new and original basic science and clinical observations. These contribute to the accuracy of the tinnitus diagnosis and treatment of all clinical types of tinnitus. Clinical observations, both positive and negative, need be exposed to the professional community if we are to achieve advances in the diagnosis and treatment of tinnitus. By prioritizing manuscripts for tinnitus, the *ITJ* editorial board and peer review process provide an instrument that advances the science, theory, and diagnosis and treatment of the symptom of tinnitus. The editorial board recognizes the reality that manuscript authors, particularly from academic institutions, are evaluated for promotion and grants on the basis of numbers of publications and the IF of journals accepting their manuscripts.

To date, lack of the IF has not yet interfered in the growth and development of *ITJ*. However, more significant is the potential for a delay in publishing a manuscript when it is submitted to a journal with a high IF; it may interfere with the availability of information for professionals involved in the basic science and diagnosis and treatment of tinnitus. When their work is recommended by the peer review process, authors submitting manuscripts for publication, with few exceptions, can expect publication within 6 to 12 months of manuscript receipt. Expansion of *ITJ's* publication from a biannual to a quarterly publication has been limited by costs. An electronic format is in development and available at the Web site www.tinnitusjournal.com. The quality of the *ITJ* and its peer review process has found international support in increasing references to publications that have appeared in the journal.

The *ITJ* is the only international peer-reviewed specialty journal dedicated to and having a primary focus on the symptom of all clinical types of tinnitus. Since 1995, it has recognized the need for quantitative measures to evaluate the accuracy and contributions of articles on basic science, neurotology, and clinical medicine for the evolving new discipline of tinnitology and the ultimate benefit of tinnitus patients. *ITJ* is indexed in *Index Medicus*/MEDLINE, Embase/Excerpta Medica, and Chemical Abstracts.

The experiences of *ITJ's* editorial board in attempting to obtain an IF—from initial attempts and continuing to date—are exemplary of misuses of the goal of the IF. Briefly, application was made for the IF after 2 years of *ITJ* publication and informal follow-up was conducted on two occasions—most recently in 2005—all answered by rejections. Originally, in 1997, rejection was based on *ITJ's* short publication history since 1995. Understandably, at least 3 years of publication was requested, to ensure the survival of the publication and to establish the need for adding the medical literature of the *ITJ* to existing journals. Reapplication followed in 2000 after fulfillment of the original recommendations. Exact dates of biannual publication as advertised were then requested. Biannual publication has been the format since 1995, with very occasional late dates (i.e., July instead of June and January instead of December).

The requested compliance has been achieved and maintained since 2000. Most recent reapplication in 2007 received the verbal response of absence of a need for an additional journal dedicated to tinnitus. The rejection has

never been based on the caliber of the editorial board, manuscripts, or peer review process, although the quality of *ITJ* and its peer review process has found international support.

The issue for *ITJ* at this time is not verification and confirmation of the need for the journal to exist. That has been established by *ITJ* readership, a distribution of 2000 per issue, designation of *ITJ* as the official journal of the Neurootological and Equilibriometric Society and the International Tinnitus Forum, and increasing international reference to publications of original contributions to tinnitology that have appeared in *ITJ*. Currently, the receipt of manuscripts exceeds the board's ability to publish.

This editorial is not a call against the IF but rather a recognition of *ITJ's* need in the twenty-first century to receive an IF rating. *ITJ's* editorial board recognizes that the perceived quality of the journals in which research is published is being used as an indicator of the scientific quality of the research itself. *ITJ's* experience in attempting to obtain an IF is cited as a misuse or abuse of the process and the stated goal of the IF. An elitism in the development of an evaluation process of a manuscript and journal is counterproductive to the goals of science and medicine.

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REFERENCES

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