

LETTERS TO THE EDITOR

Dear Sir,

I wish to add my comments to your challenging editorial of the September 1998 issue (48:5). During the course of my last two jobs there have been two fatalities of professionally qualified employees, aged between 30 and 35 years of age whilst driving on business. Both occurred on fast 'A' roads whilst waiting to turn right. One was struck from behind and pushed into oncoming traffic because they had already turned the steering wheel to the right. The other was hit head-on whilst waiting to turn right. Both were killed instantly.

The man-years of exposure were 18,000 in total for the three years. The mortality risk is difficult to calculate accurately without the construction of a proper study to eliminate bias. I would be interested to know if others have experienced similar mortalities in their organisations and whether they have been able to identify particular at-risk groups.

In a previous occupation I had the dubious distinction of working for a peripatetic occupational health service which, as a department, had the highest overall accident rate in the group (though thankfully no fatalities). To the credit of the management of that service, recognition of this fact led to a defensive driving course for all staff, which having attended once, I still value today. I understand that the accident rate fell after attendance at the course.

I agree that such risks as occupational driving need to be addressed as many work-related fatal accidents may be lost in road statistics rather than work statistics. Much work has already been done in controlling LGV risks, particularly in terms of training and limiting hours worked to minimise fatigue. For some managers, sales representatives and other drivers potentially working long hours (including travelling time), there appear to be no controls. When long hours and the Working Time Directive are brought into the picture, perhaps the whole issue of hazard identification, risk assessment and control measures with regard to currently unregulated occupational driving are ripe for a formal review?

Dr K. Holland-Elliott

AN ALTERNATIVE TO JOURNAL-BASED IMPACT FACTORS

Dear Sir,

The Impact Factor (IF) of a peer-reviewed journal confers a degree of credibility and importance to papers published in it. The higher the IF the better the recognition accorded to the papers within. The journal IF is an

index calculated by dividing the number of current year citations to the source items published in that journal during the previous (usually two) years. Thus it is a measure of the frequency with which the 'average article' in a journal has been cited in a particular year or period.¹ Under the current system, many occupational health journals have IFs which rarely exceed two, whereas many well-established multi-disciplinary journals for other subjects have much higher IFs — sometimes even exceeding 20.

Individual papers in the same journal are therefore valued to a similar extent regardless of differences in quality as long as they appear in the same journal, and if that journal has a high IF then the paper is rated highly by the system. However, the contribution of any individual paper should not be assumed from the IF of the journal alone. It is recognized that there is poor correlation between citation counts of individual papers and journal IFs.² Journal IFs also vary according to differences in the publication customs³ and the decision process in selection of papers for publication across different disciplines.

If citation counts are nevertheless accepted as a legitimate reference point for judging scientific contributions, an improved index is needed to allow the comparison of papers by subject area or discipline. To this end, we propose the use of topic-based IFs. This can be defined as the average number of citations received by all articles on a specific topic over a defined time. This index allows comparison of citations for any specific article with the average number of citations for a group of articles on the same theme. This index deliberately avoids grouping citation counts of papers dealing with different topics and thus is in contrast with journal IFs and other 'adjusted' IFs proposed.⁴

If topic-based IFs are to serve as useful indicators, they will have to be produced systematically. At present, information from two existing databases can be linked to achieve this goal, *i.e.*, the citation database of the Institute for Scientific Information and MEDLINE. Papers in MEDLINE are indexed with descriptors using medical subject headings. Such headings can be used to group articles on the basis of related topics. For individual published papers, there are usually several major descriptors indexed. Hence, one paper can contribute to several topic groups based on the major descriptors. The topic-based IF can then be calculated by dividing the number of citations received by an article during a specific time period by the number of articles in the topic group to which the article belongs (Table 1).

Citations from all sources should be included in the exercise. Articles, journals and researchers from a narrow subject area in the biomedical field will then be in a better position to compare the impact of their papers

Table 1. Hypothetical data to calculate 'topic-based' impact factors using topics related to occupational health

Topic	No. of articles indexed by topic (1)	No. of citations received by the groups of articles (2)	Topic-based impact factor (2)/(1)
Occupational diseases	1,000	1,500	1.5
Occupational diseases — epidemiology*	400	880	2.2
Occupational exposure — adverse effects*	200	360	1.8
Pneumoconiosis ..	150	200	1.3
Asbestos	300	570	1.9

* Example of descriptor combined with subheading.

against those of their group. This is because the basis for comparison will be publications on specific themes rather than the journal IFs which favour papers in a limited number of journals that are relatively well-established. The current system perpetuates the practice of preferential submission of research papers to such journals (sometimes regardless of the topic). Topic-based IFs alleviate problems with differences in publication customs, readership or the number of academics/researchers working on a specific topic area. The journals can identify the strengths and weaknesses of papers on specific topics, as a number of topic-based IFs can be calculated for different types of articles. This will also provide researchers and administrators with a better basis for comparing the impact of their research.

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K. Takahashi
Institute of Industrial Ecological Sciences
University of Occupational and Environmental Health
Japan

T.-C. Aw
Institute of Occupational Health
University of Birmingham
Birmingham, UK

D. Koh
Department of Community
Occupational and Family Medicine
National University of Singapore
Singapore

Correspondence to: K. Takahashi, Associate Professor, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Ono, Yahatanishiku, Kitakyushu City 807, Japan. Fax: (+81) 93-601-7324; email: ktaka@med.uoeh-u.ac.jp