

Policy of reviewing statistics in Indian medical and surgical journals

Sir,

Although statistical methods are a vital part of research methodology, the quality of reporting statistics in published medical literature remains low containing a large number of statistical errors and deficiencies.^[1-3] In order to reduce the impact of flawed statistics and to enhance quality of reporting, medical journal editors have over the years recommended statistical guidelines for authors^[4] or appointment of a statistical editor/reviewer.^[5] In this scenario, a recent study by Jaykaran *et al.*,^[6] has shown that almost 78% of the original articles published in two Indian pharmacology journals had used inappropriate statistics. To the best of our knowledge, there is no published study that looked into the process of statistical review in Indian medical and surgical journals and therefore, the present study was envisaged.

The present report is a cross-sectional survey of editors of Indian medical and surgical journals using a validated questionnaire that was electronically mailed. A total of 88 journals (46 currently indexed in PubMed) were identified of which email addresses of 80 editors could be retrieved. Of the 10 journal editors who responded (12.5%), five journals are currently indexed in PubMed. Amongst these respondents, two each were from the specialty (obstetrics and gynecology, and dermatology), sub-specialty (oncology and rheumatology) and para-clinical subjects (pharmacology and forensic medicine), three from general medical science and one from Ayurveda.

Eight out of ten journals conduct a statistical review after completing the initial review. In all of these journals, the editor decides whether or not a submitted manuscript requires a statistical review. However, only 8 of 10 went through the process [Table 1]. None of the journals represented by the ten responders have guidelines for authors for statistical reporting while one said that their journal had written guidelines for statistical reviewers. Majority of them (seven out of ten) said that the current status of statistical reporting in articles published in Indian journals is unsatisfactory. Two journals had their statistical editor on *ad hoc* basis while the rest had either a statistical consultant or an associate

Table 1: Responses from the journal editors

Query	Number of responders (n=10)
General statistical reviewing policy	
After the initial review but before acceptance decision was taken	8
Rarely needed and done	2
What influences editor to send the article for a statistical review	
Decided solely by the editor	2
Suggestion received by peer reviewers	2
All original article papers are reviewed by statistical reviewer	2
Editor decides if and when statistical review is needed	10
Source of statistical editors	
Associate editor with statistical expertise	4
Statistical consultants	4
<i>Ad hoc</i> basis	2
Current employment of the statistical reviewer	
Profit organization	3
Universities	6
Nonprofit organization	1
Compensation is given for the statistical reviewer	
Yes	1
No	9
Statistical reviewer sees the manuscript after the revisions are suggested	
Yes	9
No	1
Have written guidelines for statistical review	
Yes	1
No	9
Editor required to undergo any special training in statistical review of journal articles	
Yes	6
No	4
How much knowledge of statistics a journal editor should have	
To the extent of understanding the comments of journal's statistical editor or reviewer	3
Enough to judge whether the statistical tests used in a paper are appropriate	7
Reasons influencing to take a decision of not taking a statistical review	
Editor has sufficient expertise in statistics so that a separate statistical review has not been sought out	4
Statistical review is not needed	4
No statistical help was sought because of cost and time constraints	1
Current status of statistical reporting in the original articles of other Indian journals	
Not satisfactory	7
Satisfactory	2
Good	1

editor with statistical expertise. Almost all journals with the exception of one do not remunerate statistical reviewers. Most of the reviewers (six of ten) are affiliated with academic institutions with the exception of three from profit and one from not-for-profit organizations, respectively. Lukic *et al.*^[7] have suggested that 40% of statistical errors in published manuscripts can be avoided if all original articles are reviewed by a trained statistical editor. However, our study suggested that only two out of ten journals had all their original articles reviewed for statistics. Further it has also been shown that improvements in reporting statistics in published articles are not satisfactory if the editors are not formally trained in statistics^[7] and we found only three of ten journal editors had received special training in statistics. A summary of the responses poled from journal editors are given in Table 1. Given the extent of statistical flaws and deficiencies noted in published articles, it is high time for the authors and the editors of Indian journals to consider seeking expert opinion on statistical reporting in manuscripts.

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