



References in Australasian Medical Journal: Are they accurate?

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RESEARCH

Please cite this paper as: Adhikari. P, Bhandari. S. References in Australasian Medical Journal: Are they accurate? AMJ 2010, 3,13, 843- 846.

Doi <http://dx.doi.org/10.4066/AMJ.2010.556>

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Abstract

Background

References serve as an important tool in providing credibility to the published literature and to assist retrieval of the cited and related information. This study was done to observe the accuracy of references in articles published in Australasian Medical Journal.

Method

Fifty references were randomly selected from two different issues of Australasian Medical Journal (AMJ): Volume 3, Number 11, 2010 and Volume 3, Number 10, 2010. The instructions for authors of this journal were examined. References from each article were compared with the original for accuracy, using the following six elements: 1) authors; including spelling, initials, order and number; 2) title, including spelling and punctuation; 3) journal name, including use of correct abbreviation as listed in Index Medicus; 4) year; 5) volume; and 6) page numbers, including first and last page numbers. Citations were considered incorrect if there was an error in any of these six elements. References not cited from indexed journals were excluded. Statistical analysis was done by using frequency and percentage.

Results

Results show that 14.0% references in AMJ were inaccurate. Most common errors were author's name and journal name. Author's names were found to be incorrect in 10.0% references while journal name (either incorrect abbreviations or incorrect instructions or punctuation

errors) were found to be incorrect in 4.0%. Least common error was found in writing the title of the article (2.0%). There were no errors found in other elements.

Conclusion

Errors in citing the references are also found in the AMJ. The quoted error in this study (14.0%) is comparable to other international literature. The majority of errors are avoidable. So, the authors, editors and the reviewers have to check for any errors seriously before publication in the journal.

Key Words

References; accuracy; Australasian Medical Journal

Background

References serve as an important tool in providing credibility to the published literature and to assist retrieval of the cited and related information. The accuracy of journal article references should be a priority to all authors, reviewers and readers. References provide the evidence that supports background material ^[1].

It is very important for the references to be correct as incorrect references frustrate the reader while searching for related articles ^[2] and may prevent the original data being identified. Despite editorial instructions for checking the references accurately before a manuscript is submitted for publication, and the availability of various electronic resources, this continues to be a major problem in almost all the specialty journals. It is primarily the responsibility of authors to check the references against the original documents and to format these according to the guidelines given by the journal when submitting manuscript. A good scientific journal must exhibit accuracy in the references cited, moreover it is the right of the reader to be facilitated by providing accurate references and hence it becomes the shared responsibility of the contributors and editorial board ^[3].

Searching for a large number of references is a time consuming process, in particular when reference cited by other authors turn out to be incorrect. In spite of availability of online literature databases and computer-based bibliography management systems, it seems as if this problem remains ubiquitous.



Previous investigators have reported on reference accuracy in various general and specialist biomedical journals and found error rates ranging from 3% to 60% [4-9]. High error rates (4.1%–40.3%) were even found among leading biomedical journals that check references prior to publication [10]. Most errors affect the names of authors, followed by errors in the title element of a reference [6-9].

Accuracy of references reflects on the credibility of the author, the journal and the research itself [11]. Furthermore, it gives credit to the original researchers and allows readers to easily retrieve cited articles should they want to read more widely about a particular subject [11]. Inaccuracy of references citations in the published medical literature is an ongoing problem that has been identified in a variety of specialist medical journals [12]. This study was done to observe the accuracy of references in articles published in Australasian Medical Journal.

Method

Fifty references were randomly selected from different issues of AMJ. Articles selected were from the following issues: Volume 3, Number 11, 2010 and Volume 3, Number 10, 2010. The instructions for authors of this journal were examined to know how to write the referencing system in the article. References from each article were compared with the original for accuracy, using the following six elements: 1) authors; including spelling, initials, order and number; 2) title, including spelling and punctuation; 3) journal name, including use of correct abbreviation as listed in Index Medicus; 4) year; 5) volume; and 6) page numbers, including first and last page numbers. Citations were considered incorrect if there was an error in any of these six elements. If there were multiple errors in one reference, it was counted as one error only. References not cited from indexed journals were excluded. Similarly, editorial and letter to the editor were excluded. Statistical analysis was done by using frequency and percentage.

Results

Results show that 14.0% references in the AMJ were inaccurate. The most common errors were author’s name and journal name. Author’s names were found to be incorrect in 8.0% references while journal name (either incorrect abbreviations or incorrect instructions or punctuation errors) were found to be incorrect in 4.0% (Table-1).

Table: 1. Types of error in references in Australasian Medical Journal

Elements/ Errors	Number (Percentage)
Authors	
Spelling errors/ punctuation errors	3
Extra/missing author	-
Not as per journal criteria	1
References with errors (Total)	4 (8.0%)
Title	
Spelling error	1
Punctuation error	-
Omissions	-
Reference with errors (Total)	1 (2.0%)
Journal Name	
Incorrect abbreviation	2
Incorrect instruction	-
Missing journal name	-
Reference with errors (Total)	2 (4.0%)
Year	
Wrong year	-
Missing year	-
Reference with errors (Total)	-
Volume	
Incorrect volume number	-
Missing volume number	-
Reference with errors (Total)	-
Page number	
Incorrect first page number	-
Incorrect last page number	-
Reference with errors (Total)	-
Total	7 (14.0%)

Least common error was found in writing the title of the article (2.0%). There were no errors found in other elements. Error in single element was seen in 10.0% while multiple errors were seen in 4.0% references. Some of the examples of errors in citing the references are given in Table-2.



Table: 2. Examples of errors in writing the references.

The corrected one is indicated by bold letters. A- Incorrect one written by authors, B- Correct ones.

Author name spelling error and title of the article error

- A. Colli A, Jossa M, Pomar JL, Mestres CA, Gharli T. Heart fatty acid binding proteins in diagnosis of myocardial infarction: where do we stand now? *Cardiology* 2007; 108: 4-10.
- B. Colli A, **Josa** M, Pomar JL, Mestres CA, Gherli T. Heart fatty acid binding protein in the diagnosis of myocardial infarction: where do we stand **today**? *Cardiology*. 2007; 108(1): 4-10.

Author name and journal name not as per journal criteria

- A. Martin Sarah L, Lee Sarah M. Lowry Richard. National prevalence and correlates of walking and bicycling to school. *American journal of preventive medicine*. 2007; 33(2): 98-105.
- B. **Martin SL, Lee SM, Lowry R.** National prevalence and correlates of walking and bicycling to school. **Am J Prev Med** 2007; 33(2): 98-105.

Punctuation error after authors' name

- A. Senarath U, Fernando DN, Rodrigo I; Factors determining client satisfaction with hospital-based perinatal care in Sri Lanka. *Trop Med Int Health*. 2006 Sep; 11(9): 1442-51.
- B. Senarath U, Fernando DN, Rodrigo I. Factors determining client satisfaction with hospital-based perinatal care in Sri Lanka. *Trop Med Int Health* 2006 Sep; 11(9): 1442-51.

Discussion

References are very important aspects of any publication. Cited references form the basis on which the reported work intends to build on. Therefore, it is very important that the cited references are correct bibliographically, as well as assertions attributed to them are accurate. Unfortunately, cited references have been found to be inaccurate in every journal in which they have been examined.

Searching for a large number of references is a time consuming process, in particular when reference cited by other authors turn out to be incorrect. In spite of availability of online literature databases and computer-based bibliography management systems, it seems as if this

problem remains ubiquitous. Several reference accuracy studies have been published in different general and specialist journals^[5, 6]. General journal like Hong Kong Medical Journal revealed an overall error rate of 56%^[9]. Specialist medical journals like gynaecological/obstetrics journals and otolaryngology/head and neck surgery journals had inaccuracies in citing the references in 60.7%^[5] and 37.5%^[6] respectively.

Accuracy of references reflects on the credibility of the author, the journal and the research itself^[11]. Inaccuracy of reference citations in the published medical literature is an ongoing problem that has been identified in a variety of specialist medical journal^[12]. The ethics of high quality research methods have been eloquently documented elsewhere and clearly state that accurate referencing is part of a good research practice^[13]. References can often be traced back over several publications in which they were previously incorrectly cited- the error then becoming repetitious. This may be evidence of authors having drawn incorrect conclusions from another source without even examining the original context of the citation. It is also a bad practice to cite a reference that one has not read and evaluated.

This recent study shows that 14.0% references in Australasian Medical Journal were inaccurate. Most common errors were author's name and journal name. Author's names were found to be incorrect in 10.0% references while journal name (either incorrect abbreviations or incorrect instructions or punctuation errors) were found to be incorrect in 4.0%. There were no errors found in other elements. Adhikari study revealed that 11.6% references in Nepal Medical College Journal, 11.1% references in Journal of Nepal Medical Association and 23.3% references in Kathmandu University Medical Journal were inaccurate^[14]. Most common errors in all three journals quoted by Adhikari study^[14] include author's name and journal name which is similar to our study.

Probable causes of errors in references may include oversight, rush to publish, or the creating of pressure by believing in the concept of 'publish or perish'^[15]. However, these reasons hardly justify the presence of errors. Despite the persistent problem of reference errors, no effective solutions appear to have emerged. Although it may be impossible to develop a foolproof system that ensures reference accuracy, checks can be performed at the following points: the authors, the editors, and the referees^[14].

Various suggestions have been given to reduce the inaccuracy in references. Vargas-Origel et al^[4] suggested limiting the number of references and submission of the first page of the article cited to verify the reference. Eichorn and Yankauer study^[16] had earlier observed increased error rates with increased number of references. However, subsequently other studies established that the error rate is independent of the number of references^[10, 17]. On the contrary, limiting the number of references might force the



authors to omit some important references. Submission of the first page of the cited article is desired by some journals like Canadian Journal of Anesthesia but in a study conducted by McLellan et al^[18], number of errors in Canadian Journal of Anesthesia was similar to that in other Journals. We could not ascertain whether the requirement of first page of the cited article was practiced before the study or introduced later.

In addition to the above, authors of this manuscript would like to give the following suggestions to improve the accuracy of the references in medical journals: 1) accuracy of references can be improved if authors download the articles directly from Medline or other search engines into their reference list; 2) direct consultation with the original work or original manuscript of the journal; 3) submission of the photocopies of first and last page numbers of all references cited in the submitted articles; 4) reviewers are strongly asked to review the references too; 5) sending page-proof to authors for final correction of articles before publication; 6) limiting the number of references. Similarly, we would like to suggest that there is more important role of editor in chief and members of editorial board in this regard to improve the accuracy of references either by appointing the reference editor or by giving a strong instruction to the authors. As for example- if there are more than 30% errors in references, article will be send back to the authors for correction and will not be considered for review until all the references are corrected. If some of these measures are adopted, then, we hope the inaccuracies in citing the references will be decreased dramatically.

Conclusion

Errors in citing the references are also found in the Australasian Medical Journal. The quoted error in this study (14.0%) is comparable to other international literature. The majority of errors are avoidable. So, the authors, editors and the reviewers have to check for any errors seriously before publication in the journal.

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ACKNOWLEDGEMENTS

I would like to acknowledge Professor Moyez Jiwa, Editor in chief for kindly giving permission to conduct this study.

PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that we have no competing interests.