CME Article

Effective Medical Writing

Pointers to getting your article published

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Publication ethics and scientific misconduct

ABSTRACT

To maintain the readers' trust and to uphold the journal's reputation, it is paramount for the entire research, peer reviewer and publication process to follow ethical principles and decisions. Studies involving humans, animals, medical records and human tissues/organs need to be conducted ethically, and the appropriate approvals obtained. The privacy and confidentiality of patients, authors and reviewers should be respected. When required, rights and permissions should be sought. Common forms of scientific misconduct include misappropriation of ideas, violation of generally accepted research practices, failure to comply with legislative and regulatory requirements, falsification of data, and inappropriate behaviour in relation to misconduct. Authors can expect editorial action to be taken, should duplicate publication, plagiarism and other forms of scientific misconduct be attempted or detected.

Keywords: data falsification, duplicate publication, ethics committee, institutional review board, plagiarism, publication ethics, rights and permissions, scientific misconduct

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INTRODUCTION

Besides declarations of exclusive submission, authorship contribution, conflict-of-interest and copyright transfer,[1] there are several other ethical issues to consider when preparing a scientific manuscript. Every aspect of the peer review and publication process involves important ethical principles and decisions. All journals aim to maintain their readers' trust and uphold the journal's reputation, by ensuring the ethical treatment of all participants in the publication process and by dealing appropriately with episodes of scientific misconduct. This article covers topics such as the ethical conduct of studies; privacy and confidentiality of patients, authors and reviewers; rights and permissions; scientific misconduct due to data falsification and manipulation; and duplicate publication and plagiarism.

Box 1. Ethical issues in publication include:

- Ethical conduct of studies
- Privacy and confidentiality
- Rights and permissions
- Scientific misconduct
- Duplicate publication
- Plagiarism

ETHICAL CONDUCT OF STUDIES

Most journals require properly documented review and approval from a formally constituted review board (national or institutional review board, or ethics committee) for all studies involving humans, medical records and human tissues/organs. For investigators who do not have access to a formal ethics review committee, the principles outlined in the Declaration of Helsinki of 1975, as revised in 2008, should be followed.[2] If doubt exists as to whether the research was conducted in accordance with the Helsinki Declaration, the authors are expected to explain the rationale for their approach and demonstrate that the institutional review body or ethics committee had explicitly approved the doubtful aspects of the study.[3]

If the study is judged to be exempt from review, a statement from the institutional review board is required. Informed consent by patients participating in clinical trials should always be sought. If this is not possible, the institutional review board must decide if this is ethically acceptable.[3,4] Various statements, e.g. confirmation that informed consent was obtained, that institutional ethics committee (or equivalent) approval was granted, or that such approval was not deemed to be necessary by the committee, should be placed in the Materials and

Methods section of the manuscript. Authors should adhere strictly to the Instructions to Authors of the individual journals, and they are usually expected to follow the ethical requirements of the country where the journal is published.

Animals used for research are expected to be similarly protected. All animal experiments require full compliance with local, national, ethical and regulatory requirements/ framework, as well as local licensing arrangements.[4] For example, in the United States, authors performing experiments on animals are required to comply with the National Institutes of Health (NIH) guidelines for use of laboratory animals.

PRIVACY AND CONFIDENTIALITY

Patients

Authors must always be aware that all patients have a right to privacy, and patient anonymity should be maintained at all times. Identifying information, such as patients' names, initials or hospital numbers, should not be used, especially in illustrative material, unless the information is scientifically essential and the patient (or parent or guardian) has given written informed consent for publication. Ideally, authors should in such cases show the manuscript to the patient and also disclose whether any potential identifiable material will possibly be available via the Internet or in print following publication.[3]

Nonessential identifying details should be omitted. If identifying characteristics are altered to protect anonymity, such as in genetic pedigrees, authors should provide assurance, and editors should take note that such alterations do not distort scientific meaning.[3] During manuscript submission, a signed letter of permission must be included for any individual who might be identified due to written descriptions, photographs, or otherwise. When informed consent has been obtained, it should be clearly indicated in the manuscript.

Authors and reviewers

During the manuscript review process, respect for the authors' confidentiality is paramount. The reviewer has a responsibility to the author in treating each manuscript with respect, fairness and impartiality. He should always bear in mind that the submitted manuscript is an intellectual property belonging to the author, and should thus be regarded as a highly privileged piece of communication. The reviewer should refrain from publicly discussing the contents of the manuscript, and must not make use of knowledge of the author's work to further his own interests or for private gain.[5] The authors' rights may be violated if there is disclosure of their confidential details during the review of their manuscript.

Reviewers also have rights to confidentiality, which must be respected by the editor. The reviewer should expect his own identity to be kept anonymous, particularly from the authors of the manuscript. Reviewer comments should not be published or publicised without the permission of the reviewer, author and editor. Confidentiality may be breached if dishonesty or fraud is alleged, but must otherwise be honoured.[3] Authors should consult the Information for Authors of the journal to which they have chosen to submit a manuscript to determine whether reviews are anonymous. Similarly, reviewers should also be familiar with the policies of the journals that they are reviewing for, as some journals publish the names of the reviewers together with their comments.

RIGHTS AND PERMISSIONS

Rights and permissions should always be submitted in writing. These include identifiable individuals, previously published figures or tables, personal communications and acknowledgement of individuals for their contributions. Because readers may infer their endorsement of the data and conclusions, it is prudent for the lead author to get written permission from all persons listed in the Acknowledgements section, and to state specifically each individual's contribution.[6] Most journals have specific instructions on how to obtain copyright permission. Copyright owners granting permission usually also have specific instructions and conditions relating to the reproduction of previously published material.

SCIENTIFIC MISCONDUCT

Editors expect research to be conducted according to the highest possible standards of quality control and data analysis. Fabrication, falsification, concealment, deceptive reporting or misrepresentation of data constitute scientific misconduct. Most journals reserve the right to request for inspection of the raw data on which the results of a submitted article are based. Therefore, authors should retain their original data and records, and be ready to produce these for review upon request.

Box 2. Common forms of scientific misconduct [adapted from WAME[4]]:

- Misappropriation of ideas.
- Violation of generally accepted research practices.
- Failure to comply with legislative and regulatory requirements.
- Falsification of data.
- Inappropriate behaviour in relation to misconduct.

The most common forms of scientific misconduct include:[4]

Misappropriation of the ideas of others

Researchers can acquire novel ideas from others during the process of reviewing grant applications and manuscripts. However, improper use of such information constitutes fraud. Wholesale appropriation of such material can be regarded as misconduct.

Violation of generally accepted research practices

These violations include serious deviation from accepted practices in proposing or carrying out research, improper manipulation of experiments to obtain biased results, deceptive statistical or analytical manipulations, or improper reporting of results.

Material failure to comply with legislative and regulatory requirements

These include serious or substantial, repeated violations of applicable local regulations and law that involve the use of funds, care of animals, human subjects, investigational drugs, recombinant products, new devices, or radioactive, biological or chemical materials.

Falsification of data

This ranges from fabrication to deceptive selective reporting of findings and omission of conflicting data, or wilful suppression and/or distortion of data.

Inappropriate behaviour in relation to misconduct

Inappropriate behaviour includes unfounded or knowingly false accusations of misconduct, failure to report known or suspected misconduct, withholding or destruction of information relevant to a claim of misconduct, and retaliation against persons involved in the allegation or investigation.

DUPLICATE PUBLICATION AND PLAGIARISM

Both duplicate publication and plagiarism are serious forms of scientific misconduct that are deplored by journal editors.[7,8] Duplicate (or dual or redundant) publication refers to the publication of the same data in two or more different journals, or the simultaneous or near-simultaneous publication of identical or closely related articles of similar content, or a review on the same subject, in different journals. Duplicate publication can be considered deliberate, particularly if the authors fail to cite their previous publication.[7] If there is any doubt, authors should, at the time of submission, disclose details of related papers they have authored, even if published in a different language, similar papers in press and any closely related papers that have been previously published or are currently under review at another journal.[4]

The World Association of Medical Editors defines plagiarism as the use of others' published and unpublished ideas or words (or other intellectual property) without attribution or permission, and presenting them as new and original rather than derived from an existing source.[4] The intent and effect of plagiarism is to mislead the reader, and it includes the appropriation of the language, ideas or thoughts of another without crediting their true source, and representation of them as one's own original work. This applies whether the ideas or words are taken from abstracts, research grant applications, institutional review board applications, or unpublished or published manuscripts in any publication format, whether print or electronic.[4]

Authors can expect editorial action to be taken, should duplicate publication or plagiarism be attempted or detected.[7,8] Similarly, editors or reviewers who are found to have engaged in any form of scientific misconduct can expect to be investigated, and if found guilty, removed from further association with the journal, and their misconduct reported to their institution.

SUMMARY

To maintain the readers' trust and to uphold the journal's reputation, it is paramount for the entire research, peer reviewer and publication process to follow ethical principles and decisions. Studies need to be conducted ethically; the privacy and confidentiality of patients, authors and reviewers should be respected; proper rights and permissions should be obtained; and scientific misconduct due to data falsification and manipulation, duplicate submission and plagiarism should be avoided.

Box 3. Take-home points:

1. Ethically conduct studies involving people, animals, medical records and human tissues.
2. Institutional review board and other committee approvals are required.
3. Maintain privacy and confidentiality, particularly of patients.
4. Obtain rights and permissions when required.
5. Understand what constitutes, and avoid, scientific misconduct.

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EDITOR'S NOTE: This 31st consecutive monthly article marks the end of the Effective Medical Writing series, which was started in June 2008. We would like to convey our heartfelt appreciation to Professor Wilfred CG Peh, Advisor, Singapore Medical Journal and Professor Ng Kwan Hoong, Editor, Biomedical Imaging and Interventional Journal, for their contributions to the journal. We trust that our readers have benefitted from the series.

SINGAPORE MEDICAL COUNCIL CATEGORY 3B CME PROGRAMME
Multiple Choice Questions (Code SMJ 201012A)

	True	False
Question 1. Regarding ethical conduct of studies:		
(a) Most journals require institutional review board approval for studies involving humans.	☐	☐
(b) The principles outlined in the Declaration of Helsinki should be upheld.	☐	☐
(c) Authors should obtain informed consent from patients enrolled in clinical trials.	☐	☐
(d) Ethical committee approval is not required for studies involving laboratory animals.	☐	☐
Question 2. The following statements about privacy and confidentiality are true:		
(a) Patient anonymity should be maintained at all times.	☐	☐
(b) There is no need to obtain written permission from a patient whose identifiable photograph is to be published.	☐	☐
(c) Disclosure of author's confidential details during the review process may constitute a violation of the author's rights.	☐	☐
(d) For most journals, the reviewer's identity is kept anonymous.	☐	☐
Question 3. Permissions in writing should be obtained for:		
(a) Previously published figures.	☐	☐
(b) Personal communications.	☐	☐
(c) Acknowledgements of individuals for their contributions.	☐	☐
(d) Peer review of a manuscript.	☐	☐
Question 4. The following actions constitute scientific misconduct:		
(a) Misappropriation of other's ideas during the manuscript review.	☐	☐
(b) Improper manipulation of experiments to obtain biased results.	☐	☐
(c) Complete reporting of conflicting data.	☐	☐
(d) Fabrication of study findings.	☐	☐
Question 5. The following statements about scientific misconduct are true:		
(a) Plagiarism is a serious form of scientific misconduct.	☐	☐
(b) Simultaneous publication of identical articles in two different journals is acceptable.	☐	☐
(c) Failure to credit the true source of ideas or words may be regarded as plagiarism.	☐	☐
(d) Editors and reviewers involved in misconduct may be removed from further association with the journal.	☐	☐

Doctor's particulars:

Name in full: _____

MCR number: _____ Specialty: _____

Email address: _____

SUBMISSION INSTRUCTIONS:
(1) Log on at the SMJ website: http://www.sma.org.sg/cme/smj and select the appropriate set of questions. (2) Select your answers and provide your name, email address and MCR number. Click on "Submit answers" to submit.

RESULTS:
(1) Answers will be published in the SMJ February 2011 issue. (2) The MCR numbers of successful candidates will be posted online at www.sma.org.sg/cme/smj by ? February 2011. (3) All online submissions will receive an automatic email acknowledgment. (4) Passing mark is 60%. No mark will be deducted for incorrect answers. (5) The SMJ editorial office will submit the list of successful candidates to the Singapore Medical Council.

Deadline for submission: (December 2010 SMJ 3B CME programme): 12 noon, 31 January 2011.