

Moral philosophy of scholarly publications

Mathur Vijay Prakash

Pedodontics and Preventive Dentistry, Centre for Dental Education and Research, All India Institute of Medical Sciences, New Delhi 110029 India; vijaymathur7@hotmail.com

Sharma Ashutosh

NHS Dental Practitioner, Oban, Scotland

Dhillon Jatinder Kaur

Pedodontics and Preventive Dentistry, Centre for Dental Education and Research, All India Institute of Medical Sciences, New Delhi 110029 India

Kalra Gauri

Pedodontics and Preventive Dentistry, Centre for Dental Education and Research, All India Institute of Medical Sciences, New Delhi 110029 India

Abstract Publishing your papers in peer-reviewed journals is an essential step on the ladder to success. Scholarly papers reflect the quality and activity of your scientific work. Publishing activity contributes to an individual's and his/her institution's growth. There should be universal practices or publication ethics to be followed to ensure that scientific integrity is maintained. This article highlights common moral issues in publication and provides suggestions on how to avoid scientific misconduct.

Keywords Scientific misconduct; publication ethics; periodicals as topic.

Introduction

In today's world, to succeed in an academic environment, it is imperative to publish in peer-reviewed journals which follow standards of publishing ethics. Quality scientific publications are essential for career advances of an individual researcher as well as the entire scientific community. Researchers and their institutions are under immense pressure to publish and to survive in the fierce academic competition. Unfortunately, in the race for maximum publications, the most critical aspect of publishing, ethics, is often ignored. Also, the race negatively affects the quality of research and demoralizes those who commit misconduct.

The International Committee of Medical Journal Editors (ICMJE) publishes the Uniform Requirements for Manuscripts Submitted to Biomedical Journals which is one of the best guiding tools for authors, reviewers and science editors.¹ This document covers some issues in publication ethics and adds to our knowledge of what is moral and acceptable in science writing practice. Within this article we reflect on some of the issues related to morality in scholarly publications.

Plagiarism

Plagiarism is the most common form of publication misconduct. The Office of Science and Technology Policy (USA) defined plagiarism in 1999 as "the appropriation of another person's ideas, processes, results or words without giving appropriate credit, including those obtained through confidential review of others' research proposals and manuscripts."²

Plagiarism may take any of the following forms:

1. Complete word for word copying of someone's work without permission from and acknowledgement to the original authors.
2. Substantial copying of the majority of text or data with minor changes in the text or style of writing.
3. Paraphrasing by substituting words in someone's work without altering the idea or context of the text.
4. Recycling one's own published text (self plagiarism or recycling fraud) which is "the re-use of significant, identical, or nearly identical portions of one's own work without acknowledging that one is doing so or citing the original work".³

If the authors re-use data or reproduce graphical material from previous publications without permission and proper acknowledgement, it is also viewed as plagiarism. Publication of similar data repeatedly or multiple publications of an article in different journals also qualifies as plagiarism.⁴ Peer reviewers and editors may steal ideas, methodology and textual material from manuscripts they review and edit, thus committing so-called editorial plagiarism, a gross misconduct which shatters trust in the whole system of science communication. With the wide use of online resources, 'copy-paste' or Internet plagiarism has emerged as a dominant form of scientific misconduct.

The best way to avoid plagiarism is to refrain from copying any material from others' work. If someone's work or statement is quoted, proper citation should be given. If exact words are copied, they should appear in quotation marks. Written permission to reproduce any material should be obtained from the previous publisher to avoid claims of (self)plagiarism. There are software programmes that identify copied text, and editors are advised to process manuscripts through such a programme before sending them for peer review.

Inappropriate authorship

Authorship should be appropriately attributed to create a link between scientific credit and responsibility. Unfortunately, not all researchers realize that authoring a paper implies accountability for scientific content. The ICMJE initially provided three criteria of authorship.¹ These allowed one to distinguish authors who have made substantive contributions from those who merely deserve an acknowledgement. To claim authorship all of the following criteria had to be fulfilled:

1. Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
2. Drafting the article or revising it critically for important intellectual content; and
3. Final approval of the version to be published.

In 2013, a fourth criterion was added, which was to take responsibility for the integrity of the entire work. Nevertheless, issues of 'gift' and 'ghost' authorship remain unresolved and pose challenges for the traditional model of scientific authorship.

Honorary, or gratuitous, or guest authorship describes listing a person who made little or no contribution to the work as an author. This may be presented as a 'gift' to colleagues, friends, or relatives with expected reciprocal favours. For example, two or more investigators may agree to put each other's names on their papers to provide 'mutual support'. Another unethical form of claiming scientific credit is 'coercive authorship' when an individual's name is listed as an author simply due to his/her seniority or administrative status. Kwok has termed this the "White Bull effect"⁵ where seniors intimidate their juniors or subordinates to be included as their co-authors.

Ghost authorship is an opposite form of wrongdoing when a person ('ghost writer') who made significant changes to the paper is not listed as a co-author. One reason for this may be financial or non-financial conflicts of interest of the excluded contributor. It may also be in the form of engaging professional writers without naming them as authors. Although engaging a native English writer is not unethical, and particularly useful when the main author's first language is not English, ethical norms should be observed and relevant disclosures made in the acknowledgements section. Commercial pharmaceutical and other organizations may hire 'ghost authors' for writing and editing reports on research sponsored by them.⁶ Moreover, companies with financial interests in drugs or technologies often hire professional writers to promote their products but accredit exclusive authorship in the sponsored papers to prominent experts to lend more weight to their product.

The responsibility of ensuring appropriate authorship lies with various individuals and organizations.⁷ Authorship disputes can be avoided by discussing contributors' roles at the start of the research. Records of each person's contribution should be saved in the process of research and writing to avoid conflicts at a later stage. Sharing responsibilities at the start allows a clear understanding of the co-authors' contributions. Each research institution should have its own authorship policy. Those who provide financial support or help with acquisition of data, or assume a general supervisory position, should be acknowledged but not listed as co-authors. Any writing support also needs to be acknowledged. To promote awareness about these issues, science writing and editing courses should include publications ethics as an essential part of their curricula. Journal editors are entitled to ask the authors about their contributions and suggest omissions if instances of inappropriate authorship are uncovered. The authors themselves and their institutions cooperating with the editors may resolve most disputes.⁸

Multiple submissions

Duplicate submission of a paper to two or more journals is often done by unskilled authors to minimize publication time. However, this act is unethical as it wastes editors' and reviewers' precious time and efforts. Multiple publications of the same papers may also distort the evidence synthesis for future systematic reviews and meta-analyses. The acceptable option is to wait until a decision on a submission is made in one journal then submit the rejected manuscript to another journal. Simultaneous submissions may be considered ethical if editors of all target journals are informed at the submission of the manuscript and publish a statement which properly reflects the status of the related papers. This is justifiable when the authors wish to broaden the reach of their papers such as clinical practice guidelines or declarations of professional societies.

Redundant and fragmented publications

Redundant publications contain little or no new information. The data and conclusions in these publications often overlap. For example, the *BMJ* considers more than 10% recycled information as redundancy.⁹ The redundancy distorts the processing of information and may affect the quality of meta-analyses. Sometimes, long-term studies with multiple intervention arms require the obtained data to be reported at more than one time point. It is the authors' duty to clearly state the reason for the data overlap in consecutive publications.

Fragmented or salami publication is when obtained data are dispersed in multiple papers instead of appearing in one solid publication. The aim of such misconduct is to boost someone's publication record. The whole study is divided into articles which constitute the 'least publishable unit' (LPU) or 'minimum publishable unit' (MPU) and each unit contributes only slightly to the understanding of the study.¹⁰ LPU is defined as the minimum amount of information that can generate a publication in a peer-reviewed journal.

Competing manuscripts

This usually occurs when opinions amongst a large group of contributors differ and several papers are published from the same study. Co-workers may have disagreements over the facts and records as well as the analysis and interpretation of their study results. As a result, reviewers' and editors' efforts can be wasted, and readers can be confused.

If disputes in analysis or interpretation of data arise, it is advisable to submit all versions of the manuscript simultaneously and provide a clear explanation in a covering letter. If opinions over the data reporting differ, the paper should only be sent for publication once all the disputes have been resolved by the authors.¹

Non-disclosure of competing interests

Competing interests, or conflicts of interest, may arise when there is a divergence between an individual's or a research group's professional obligations and private interests. This can compromise the validity and integrity of research. There may be significant financial or personal interests which may affect the objectivity of research data and threaten

the protection of human subjects. Research institutions can be negatively affected by competing interests and their inappropriate handling.

Transparent disclosure of financial and other competing interests is the best approach to managing any related conflict. Any conflicting instance should be reported to peer reviewers and editors at manuscript submission. Reviewers and editors themselves are also obliged to disclose any financial and personal reasons which may adversely affect the peer review process. For example, conflict may arise when author and reviewer are close friends or colleagues with competing interests in the subject of the processed manuscript. Obviously, both the author and the reviewer must disclose such a conflict to the journal editor, who will invite unrelated experts to evaluate the manuscript.

Fabrication and falsification of data

Data fabrication, falsification and image manipulation are serious forms of scientific misconduct. Fabrication implies that there is no research done and the reported data are entirely or partially made up. Falsification means that the author has modified results or observations to suit his/her objectives. Both fabrication and falsification damage the reputation of individuals and their institutions.

Conclusion

In an ideal world, one of Leonardo da Vinci's favourite mottoes "Ostinato Rigore", which means constant rigour, should be the motto for every science editor. Rigour in the context of editorial work is strict adherence to the truth.¹¹ We do not live in an ideal world, and encounter moral dilemmas each day. Ethics in publications is a rather complex subject. Fundamentally, ethical standards are needed to ensure that scientific publications are trustworthy. This trust is based on good decision-making and strong editorial processes. However, good publication practices do not develop by chance and will become established only if they are promoted by the scientific community.¹²

References

- 1 Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Statement of Purpose: About the Uniform Requirements. Available at http://www.icmje.org/sop_1about.html [Accessed 9 December 2013].
- 2 Research Misconduct – A New Definition and New Procedures for Federal Research Agencies. Available at http://clinton3.nara.gov/WH/EOP/OSTP/html/9910_20_2.html [Accessed 9 December 2013].
- 3 Plagiarism. Available at <http://internationalscholarsjournals.org/policies/plagiarism> [Accessed 9 December 2013].
- 4 Satyanarayana K. Plagiarism: a scourge afflicting the Indian science. *The Indian Journal of Medical Research* 2010;131(3):373–376.
- 5 Kwok LS. The White Bull effect: abusive coauthorship and publication parasitism. *Journal of Medical Ethics* 2005;31(9):554–556. doi: 10.1136/jme.2004.010553
- 6 Matheson A. How industry uses the ICMJE guidelines to manipulate authorship--and how they should be revised. *PLoS medicine* 2011;8(8):e1001072. doi: 10.1371/journal.pmed.1001072
- 7 Gasparyan AY, Ayvazyan L, Kitas GD. Authorship problems in scholarly journals: considerations for authors, peer reviewers and editors. *Rheumatology International* 2013;33(2):277–284. doi: 10.1007/s00296-012-2582-2
- 8 Albert T, Wager E. How to handle authorship disputes: a guide for new researchers. Available at <http://publicationethics.org/files/2003pdf12.pdf> [Accessed 9 December 2013].
- 9 What we mean by "publication". Available at <http://www.bmj.com/about-bmj/resources-authors/article-submission/what-we-mean-publication> [Accessed 9 December 2013].
- 10 Roberts J. An author's guide to publication ethics: a review of emerging standards in biomedical journals. *Headache* 2009;49(4):578–589. doi: 10.1111/j.1526-4610.2009.01379.x
- 11 Allende JE. Rigor – The essence of scientific work. *Electronic Journal of Biotechnology* 2004;7(1). doi: 10.2225/vol7-issue1-fulltext-
- 12 Satyanarayana K. Journal publishing: the changing landscape. *The Indian Journal of Medical Research* 2013;138(1):4-7.

This article has been commented on by Miguel Roig in the Correspondence section on page 26.

European Association of Science Editors

Science Editors' Handbook
2nd edition

Editors
Pippa Smart
Hervé Maisonneuve
Arjan Polderman

European Association of Science Editors
EASE
www.ease.org.uk

Science Editors' Handbook – Korean edition
The ongoing collaboration between EASE and the Korean Council of Science Editors has continued with local production of the Science Editors' Handbook in Seoul for distribution to 500 Korean editors. This is a very exciting development that greatly extends the reach of the handbook. Any group that would be interested either in printing the handbook locally to reduce distribution costs or in translating some or all of it should contact the Secretary (secretary@ease.org.uk).