Journal Watch

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SECTION EDITOR

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A proposal to define a new category of bad practice – The non-publication of clinical trial results

Poor research practices are usually classified as fraud (fabrication, falsification, and plagiarism) and questionable research practices. An editorial published in *Annals of Internal Medicine* accompanies a short paper describing the non-reporting of clinical trial results, based on 500 trials.[1] The survey concluded: "Large trials that are unreported for almost 4 or more years after completion are unlikely to be published later or to post results on ClinicalTrials.gov. The loss of evidence from these trials pertained to almost 90,000 participants."[2] This is not the first publication to highlight the non-reporting of clinical trial results. The editorial develops the usual arguments, that non-reporting is contrary to the Helsinki Declaration, causes loss of public trust, damages the quality of published research, etc. Volunteers who agree to participate in trials believe that their willingness to take risks will be useful for science. There is no justification for hiding trial results.

The editorial is clear and makes proposals to consider non-reporting as poor academic practice, with institutional responsibility:

Institutions should suspend investigators who do not report results within a year of finishing a trial, unless extenuating circumstances exist that impede reporting. These institutions also should consider lack of reporting in the academic promotion process. Funding agencies, such as the NIH, should withhold support from researchers who do not report results. Investigators who have completed clinical trials without reported results should be prohibited from applying for additional grants and current grants should be suspended. An even stronger incentive would be to hold institutions accountable for reporting results.[2]

References

1. Tatsioni A, Karassa FB, Goodman SN, Zarin DA, Fanelli D, Ioannidis JP. Lost evidence from registered large long-unpublished randomized controlled trials: a survey. Ann Intern Med. 2019 May;171(4):300.
2. Wallach JD, Krumholz HM. Not reporting results of a clinical trial is academic misconduct. Ann Intern Med. 2019 May;171(4):293.

Chinese authors overtake US researchers in research publications

The 2018 report of the International Association of Scientific, Technical and Medical Publishers shows that China was ahead of the United States in research publication output.[1] For 2.3 million English-language articles in peer-reviewed journals: *China has overtaken the US to become the pre-eminent producer of global research papers globally, with a share of about 19%, and on current trends its research spending will also exceed the US's by the early 2020s. The US accounts for 18% of global articles, while India has also seen rapid growth in recent years, and now produces 5% of global outputs, ahead of Germany, the UK and Japan, each on 4%.*

References

1. Johnson R, Watkinson A, Mabe M. The STM report. An overview of scientific and scholarly publishing. International Association of Scientific, Technical and Medical Publishers. Fifth Edition, October 2018.

A preprint server for healthcare science: medRxiv

The first preprint server was developed by Cornell University in 1991 in physics: arXiv (https://arxiv.org/). The system, in which manuscripts are posted online after undergoing a minor period of moderation but before peer review by a journal, is a success. As of July 2019, arXiv has more than 1.5 million e-prints in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. It was only later (2013) that a preprint server was created in biology/life sciences, and after a slow start, it is considered a success. BioRxiv (https://www.biorxiv.org/) is run by Cold Spring Harbor Laboratory (New York). BioRxiv is expected to receive approximately 20,000 preprints per year. There are many preprint servers, for example those hosted by the Center of Open Science in Charlottesville, Virginia (https://osf.io/preprints/).

In medicine, projects have been announced since 2017, but many controversies exist. Some journal editors are opposed to the practice of submitting manuscripts before peer review. The creation of medRxiv was announced in June 2019, and it is possible to submit preprints at https://www.medrxiv.org/. MedRxiv is managed by three partners: Cold Spring Harbor Laboratory, the *BMJ*, and Yale University. A warning appears for each paper: "This article is a preprint and has not been peer-reviewed. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice." Only research articles can be posted; case reports and opinion pieces will not be posted. A key screening question will be whether a preprint, if posted, has the potential to do harm to individual patients or the public. If in doubt, medRxiv will not post the preprint; the authors will be encouraged instead to publish only after peer review.

Will the presence of the *BMJ* in this project influence the behaviour of researchers and other medical journal editors?

Is the future of mega-journals as a major publishing platform threatened?

The arrival of mega-journals in the early 2000s has been acclaimed by the scientific community. These journals were open access and all research results became accessible. The model was to publish any research, provided that the methods were sound. The acceptance rate is around 60% to 70%. These mega-journals published all types of research and were not restricted to limited areas. An academic editor is appointed for each paper submitted and is responsible for the peer review process. Review notices are often posted online with the article. There is no large editorial board like the journals of learned societies. Some thought that 100 mega-journals would be enough to publish all the science. The economic model consists in charging authors publication fees when the article is accepted for publication, after peer review. The fee, known as an article processing charge, varies according to the journal, often in the range of $1000 to $4000.

The first mega-journal was *PLOS ONE*, created in 2006 by the Stanford University Library, and it published approximately 30,000

articles in the years 2013–2015. Competitors then appeared, including Springer's Scientific Reports. The annual number of articles published then declined slightly, as did the impact factor (from about 4 to 3).

Petr Heneberg analysed the bibliometric parameters of 11 megajournals and compared them with three control groups of gold open-access journals that do not satisfy the criteria for megajournals and that do not apply the concept of "sound science".[1]

We show that nonselective megajournals have started to decline in all bibliometric parameters. These journals in particular have lost connection with the most advanced science as revealed by the decreasing citations to and from the top-tier journals. While some megajournals have underperformed on bibliometric parameters from the beginning of their existence, others experienced a short honeymoon period before declining. In contrast, major discipline-specific open-access journals remain competitive, and those published by less prominent publishers have even increased their performance. However, the discipline specific open-access journals also display decreasing citations to and from the top-tier journals.

The old model of learned society journals, of the prestigious journals of major publishers is not dead. The future of scientific journals still holds surprises for us.

References

1. Heneberg P. The troubles of high-profile open access megajournals. Scientometrics. 2019;120(2):733–6.