Journal Watch

Journal Watch is based on the French language blog, *Rédaction Médicale et Scientifique*, by Hervé Maisonneuve, available at www.redactionmedicale.fr.

SECTION EDITOR

Hervé Maisonneuve
herve@h2mw.eu

COVID-19 pandemic articles in journals: Lessons for the future?

The SARS-CoV-2 pandemic responsible for COVID-19 is testing the resilience and limits of our established system of science publishing. As a result, scientific journals may have to reevaluate their existing standards, roles, and economic models once the crisis is over. It is too early to predict what changes will endure, but I'm already certain of one thing: The first four months of 2020 have already altered the way scientific journals work. Here are some examples and observations about these new developments:

- Clinicians have run out of time to write up their results because the demand for medical personnel is so great. Other researchers, however, have found themselves homebound with lots of time to analyse old data and prepare it for publication. Journal editors and reviewers have not always been available to perform their usual editorial and vetting tasks.
- There has been great competition among prestigious journals: *Nature* (UK) and *Science* (USA) have raced to attract research papers; *The Lancet*, The *BMJ*, the *New England Journal of Medicine*, and *JAMA* are competing to attract medical research. Most of them have sought out "hot" papers, preferring these to others of lesser interest in a time of pandemic crisis. We have to ask ourselves: Did journals sometimes lower their standards in order to accept papers on hot topics?
- Most prestigious journals and publishers have created a site dedicated to COVID-19 articles. Nearly 100 academic journals, societies, institutes, and companies have signed an agreement to make research and data on COVID-19 freely available, at least for the duration of the outbreak.[1] Some journals waived their usual article processing charges. Some editing companies have offered to edit papers for free.
- The volume of published papers on COVID-19 is high: more than 16,000 articles were published in peer-reviewed journals between January and May 2000 (https://pubmed.ncbi.nlm.nih.gov/?term=covid-19). To meet the demands of this accelerated pace, a fast-track for peer review was used for most, and journals often resorted to published calls to find reviewers.
- The *NEJM* has reported receiving 40 COVID-19 papers per day, and accepting 2%.[2] *JAMA* published an editorial on the lapse in ethical standards of scientific reporting: "The editors have become aware that some of the patients described in some of these manuscripts, sometimes with overlapping authorship, have been reported in more than 1 submission".[3] Case reports based on the same sets of patients have been published in different journals.
- The quality of many of the published papers was poor, and at least 50% were deemed of little scientific interest.[3] High impact journals have published observational studies based on fewer than 10 cases, with poor case reports, and open, non-comparative non-randomised trials with fewer than 50 patients. Specialty journals have received papers rejected from prestigious journals.
- Chinese authors have been numerous, and their papers – in contrast to those published during the previous coronavirus pandemics – were only signed by Chinese authors. This change in authorship practice is a new development in scientific communication and needs to be evaluated after the end of the pandemic.
- Many new databases and websites have been created to compile the literature on COVID-19; the site of the Evidence for Policy and Practice Information and Coordinating Centre, UK, regularly updates the literature.[4] On April 1, 2020, this site listed 2,340 papers; some were excluded: 1404 (not primary data), and 169 (concerning other viruses); the other papers were classified as case reports (189), transmission/risk/prevalence (159), health impacts (143), diagnosis (95), genetics/ biology (80), case study/ organisation (72), treatment drugs (41), mental health

impacts (10), social/economic impacts (8), vaccine development (5), intervention/outcomes study (5).

- Preprints have gained enthusiastic support, even though before this epidemic, some authors and writers were resistant to their use; however, the number of COVID-19 preprints was difficult to estimate due to the great number of archives involved. Nonetheless, at least 2000 preprints related to COVID-19 were deposited between January and March 2020; for example, on April 6, 2020, medRxiv had 924 preprints, while bioRxiv had 279 preprints (https://connect.medrxiv.org/relate/content/181). For bioRxiv, 30% of these preprints remain unpublished, yet the majority are already posted onto bioRxiv close to or after submission.[5] We don't know if this observation will also apply to medRxiv COVID-19 preprints.
- The *International Journal of Antimicrobial Agents* published a series of poor papers from Didier Raoult and his team on the use of chloroquine to treat infection by coronavirus; one of them reported encouraging results with 19 patients but also revealed numerous biases.[6,7] The main objective was probably to be mentioned by the media, and indeed, it did get a US presidential tweet; the journal's editor and another editorial board member were co-authors of these papers; most papers were accepted with an expedited peer review of 12 to 24 hours. Exceptionally, ISAC (International Society of Antimicrobial Chemotherapy), owner of the journal, issued a press release with the following statement: *ISAC shares the concerns regarding the above article published recently in the International Journal of Antimicrobial Agents (IJAA). The ISAC Board believes the article does not meet the Society's expected standard, especially relating to the lack of better explanations of the inclusion criteria and the triage of patients to ensure patient safety.*

In the single month of March 2020, Didier Raoult and Jean-Marc Rolain (Editor in Chief) co-authored seven papers on COVID-19 in this journal.

Looking over these observations, we must ask ourselves: How will journals get back on track after this article pandemic? Will they re-install article processing charges and paywalls for the COVID-19 papers at some point? Will preprints become more accepted by the clinicians and researchers? Will journals change their peer review process so that fast-tracking and open reviewing become permanent features? Will they all switch to an open-access model?

Clearly, the COVID-19 pandemic has already had a dramatic impact on our daily lives and health. Continued monitoring will be necessary to assess whether – and to what extent – it will also alter the course of established processes for scientific publication.

References

1. Yasinski E. Journals open access to coronavirus resources. The Scientist. 2020 Feb 13.
2. Jarvis C. Journals, Peer Reviewers Cope with Surge in COVID-19 Publications. The Scientist. 2020 Mar 17.
3. Bauchner H, Golub RM, Zylke J. Possible reporting of the same patients with COVID-10 in different reports. JAMA. 2020 Mar 16. Available at: https://doi.org/10.1001/ jama.2020.3980
4. EPPI Centre. COVID-19: a living systematic map of the evidence. [cited 2020 April 3]. Available at: http://eppi.ioe.ac.uk/cms/Projects/DepartmentofHealthandSocialCare/Publishedreviews/COVID-19Livingsystematicmapoftheevidence/tabid/3765/Default.aspx
5. Anderson K. bioRxiv: trends and analysis of five years preprints. Learn Publ. 2019;33(2):104–9.
6. Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. Int J Antimicrob Agents. 2020 Mar;105949.
7. Bik E. Thoughts on the Gautret et al. paper about Hydroxychloroquine and Azithromycin treatment of COVID-19 infections. Science Integrity Digest. 2020 March 24. Available at: https://scienceintegritydigest.com/

"Registered Reports" associated with increased proportion of negative results in the published literature

"Registered Reports" is a publishing format that emphasises the importance of the research question and the quality of methodology by conducting peer review prior to data collection. High-quality protocols are then provisionally accepted for publication if the authors follow through with the registered methodology. This format eliminates a variety of questionable research practices, including low statistical power, selective reporting of results, and publication bias, while allowing complete flexibility to report serendipitous findings. Currently, 242 journals use the Registered Reports publishing format (https://cos.io/rr/?_ga=2.48543974.1956374534.1585861906-633746582.1578172282).

Peer review occurs prior to observing the outcomes of the research. Manuscripts that survive pre-study peer review receive an in-principle acceptance that will not be revoked based on the outcomes, but only on failings of quality assurance, following through on the registered protocol, or unresolvable problems in reporting clarity or style.

A comparison of articles between standard reports and Registered Reports was made and published as a preprint (not yet published in a peer-reviewed journal).[1] I copied extracts from the Abstract:

> *We compared the results in the full population of published Registered Reports in Psychology (N = 71 as of November 2018) with a random sample of hypothesis-testing studies from the standard literature (N = 152) by searching 633 journals…*

> *Analysing the first hypothesis reported in each paper, we found 96% positive results in standard reports, but only 44% positive results in Registered Reports. The difference remained nearly as large when direct replications were excluded from the analysis (96% vs 50% positive results). This large gap suggests that psychologists under-report negative results to an extent that threatens cumulative science.*

Reference

1. Scheel AM, Schijen M, Lakens D. An excess of positive results: Comparing the standard psychology literature with Registered Reports. Preprint. Posted online 2020 Feb 5. PsyArXiv. Available at: https://doi.org/10.31234/osf.io/p6e9c

Mark your calendar

September 2021 International Congress on Peer Review and Scientific Publication (Chicago)

In 2020, consider performing some kind of research on peer review, with the objective of presenting a poster or a communication at the ninth International Congress on Peer Review and Scientific Publication to be held in Chicago in September 2021 (https://peerreviewcongress.org). The closing date for abstract submissions is January 2021.