Journal Watch

Journal Watch is based on the French-language blog *Rédaction Médicale et Scientifique*, available at http://www.redactionmedicale.fr.

SECTION EDITOR

Hervé Maisonneuve
herve@h2mw.eu

Rather than reporting isolated *P* values, articles should include effect sizes and uncertainty metrics

This 8-page paper published in *JAMA* assessed the reporting of *P* values in the biomedical literature from 1990 to 2015. This huge piece of work used text mining to identify 4,572,043 *P* values in 1,608,736 MEDLINE abstracts and 3,438,299 *P* values in 385 393 PMC full-text articles. The reporting of *P* values in abstracts increased from 7.3% in 1990 to 15.6% in 2014. In 2014, *P* values were reported in 33.0% of abstracts (n = 29,725 abstracts), 35.7% of meta-analyses (n = 5,620), 38.9% of clinical trials (n = 4,624), 54.8% of randomised controlled trials (n = 13,544), and 2.4% of reviews (n = 71,529).

The distribution of reported *P* values in abstracts and in full-text articles showed strong clustering at *P* values of 0.05 and of 0.001 or smaller. *P* values reported in abstracts were in general lower (showing greater statistical significance) than *P* values reported in the full-text articles. Besides the substantial proportion of abstracts that report *P* values, a larger proportion of abstracts included qualitative statements about significance, mostly without any other quantitative information. Few articles included confidence intervals, Bayes factors, or effect sizes. The authors suggested that rather than reporting isolated P values, articles should include effect sizes and uncertainty metrics.

Reference: Chavalarias D, Wallach JD, Ting Li AH, Ioannidis JPA. Evolution of reporting P values in the biomedical literature, 1990-2015. JAMA 2016;315(11):1141-1148.

Further research should elucidate if and to what degree quotation errors are detrimental to scientific progress

The case is simple: citations are an essential element of manuscripts, but 25% do not serve their purpose! In a systematic review on quotation accuracy, 559 studies were screened, of which 28 were included in the main analysis, and the estimated major, minor and total quotation error rates were 11,9% (95% CI [8.4, 16.6]) 11.5% (95% CI [8.3, 15.7]), and 25.4% (95% CI [19.5, 32.4]), respectively. While heterogeneity was substantial, even the lowest estimate of total quotation errors was considerable (6.7%). Indirect references accounted for about one sixth of all quotation errors.

The strategies suggested for reducing quotation errors were: spot checks by editors and reviewers, correct placement of citations in the text, declarations by authors that they have checked cited material.

Reference: Jergas H, Baethge C. Quotation accuracy in medical journal articles – a systematic review and meta-analysis. Peer J. 2015;3:e1364.

There is poor performance and noticeable variation in the dissemination of clinical trial results across leading academic medical centers.

The objective of this study was to determine rates of publication and reporting of results within 2 years of completion for all clinical trials registered in ClinicalTrials.gov by leading academic medical centres in the United States. A total of 4,347 interventional clinical trials were identified across 51 US academic medical centers between October 2007 and September 2010. Overall, results were disseminated for 2,892 (66%) trials, with 1,560 (35.9%) within 24 months of study completion.

Additional tools and mechanisms are needed to rectify this lack of timely reporting and publication, as they impair the research enterprise and threaten to undermine evidence-based clinical decision making.

Reference: Chen R, Desai NR, Ross JS, Zhang W, Chau KH, Wayda B, et al. Publication and reporting of clinical trials results: cross sectional analysis across academic medical centers. BMJ 2016;352:i637.

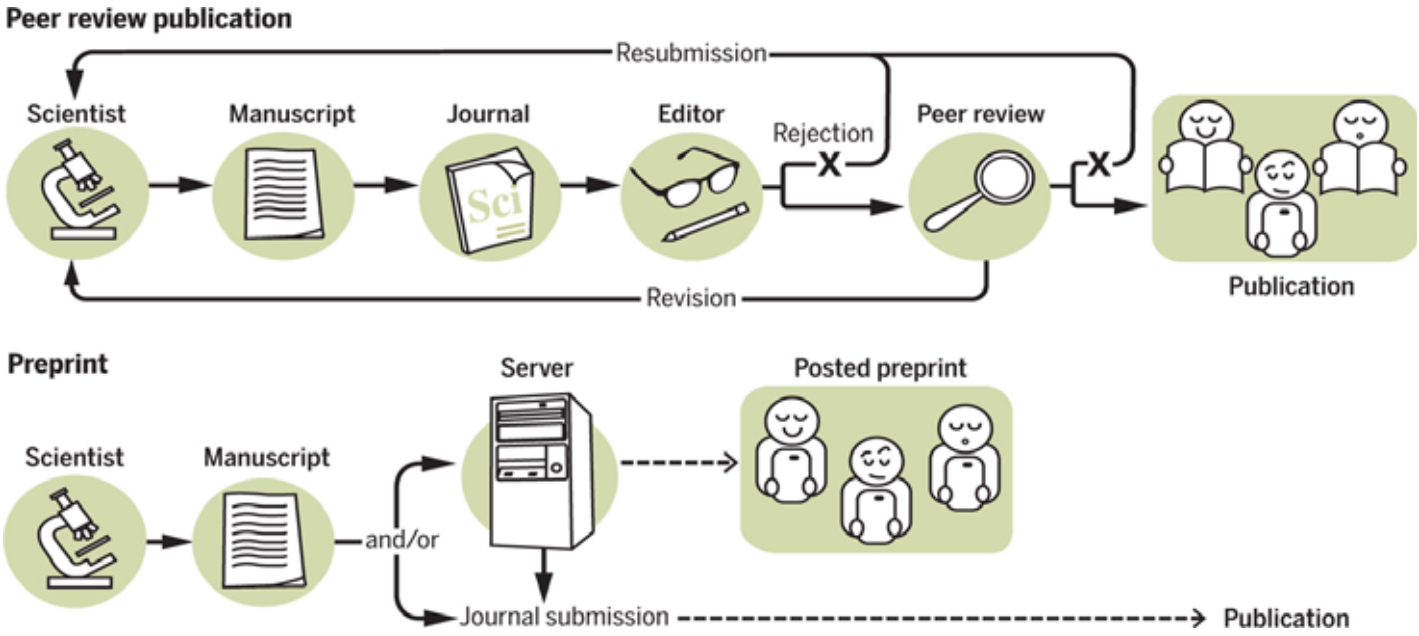

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Figure 1: Peer review and preprints in the life science, as proposed by Accelerating Science and Publication in biology (http://asapbio.org/)

The time is right for biologists to post their research findings onto preprint servers: Accelerating Science And Publication in biology (ASAPbio)

The ASAPbio meeting (Feb 2016) was held to explore the wider use of preprints for disseminating ideas and results in the life sciences. *"A preprint is a complete scientific manuscript (often one also being submitted to a peer-reviewed journal) that is uploaded by the authors to a public server without formal review. After a brief inspection to ensure that the work is scientific in nature, the posted scientific manuscript can be viewed without charge on the web."*

The preprint server arXiv.org has been essential in the fields of physics, mathematics, and computer sciences for over two decades. Will such servers be implemented in other scientific fields?

This paper has 3 parts presenting the perspectives of Academics, Funders and Publishers. Stakeholders have different views and all suggest to rapidly change the publication system, moving to preprints. Servers are ready to serve such an objective, and biologists will see opportunities, as well as clinicians.

Reference: Berg JM, Bhalla N, Bourne PE, Chalfie M, Drubin DG, Fraser JS, *et al.* Preprints for the life sciences. Science 2016;352:899-901.

Authors of systematic reviews are on the front line to detect research misconduct

An analysis of 118 systematic reviews published in 4 journals (Ann Int Med, BMJ, JAMA, Lancet), and the Cochrane Library was carried out in 2013 to analyse application of procedures to counter-balance 6 forms of malpractices: 1. publication bias (through searching of unpublished trials), 2. selective outcome reporting (by contacting the authors of the original studies), 3. duplicate publications, 4. sponsors' and 5. authors' conflicts of interest on the conclusions of the review, and 6. ethical approval of the studies.

Overall, 59 (50%) reviews applied 3 or more procedures; 11 (9%) applied none. The extracted data were confirmed by 68% of the authors of the systematic reviews. Seven reviews suspected misconduct, of which 5 did not report it, and 2 reported it explicitly. The suspected cases were data falsification (3 reviews), data manipulation

(1 review), difference in data between the published trial and the re-analysed data posted on the FDA website (1 review), and selective reporting of outcomes (2 reviews). The risk related to double counting of participants due to duplicate publications and the risk of selective reporting of outcomes were recognised by most authors (69 %). In general, conflict of interest was underestimated.

Reference: Elia N, Elm E von, Chatagner A, Pöpping DM, Tramèr MR. How do authors of systematic reviews deal with research malpractice and misconduct in original studies? A cross-sectional analysis of systematic reviews and survey of their authors. BMJ Open 2016;6:e010442

The endorsement of CONSORT by high impact journals has increased over time

First published 20 year ago, the CONSORT reporting guidelines have received widespread attention. The 1996, 2001 and 2010 publication of the guidelines, the CONSORT statement and elaboration documents have been cited more than 12,000 times (Scopus, May 2015). Published in June 2016 in *Trials*, this is the third study evaluating the endorsement of CONSORT by journals. The mention of CONSORT in the online "Instructions to Authors" given by 168 high impact journals that were included in this study was examined (Table 1). CONSORT was mentioned in the "Instructions to Authors" by 63% of the journals, and was defined as mandatory by 42% for reporting of trails. The endorsement of CONSORT by high impact journals has increased over time, although the implementation is far from standardised (Table 1). There is still room for improvement to encourage compliance with CONSORT.

Table 1: Mention of CONSORT, ICMJE, and trial registration in the "Instructions to Authors" from the top impact factors journals in 2001, 2006 and 2012

	2003[a] N = 166 n (%)	**2007**[b] N = 165 n (%)	**2014**[c] N = 168 n (%)
CONSORT statement	36 (22 %)	62 (38 %)	106 (63 %)
ICMJE	72 (43 %)	69 (42 %)	130 (77 %)
Trial registration	Not collected	61 (37 %)	106 (63 %)

Abbreviations: IF: Impact Factor; ICMJE: International Committee of Medical Journal Editors; N =number of articles screened; n = number of articles that mentioned CONSORT, ICMJE, or trial registration in the "Instructions to Authors" .
[a]2001 IF; [b]2006 IF; [c]2012 IF
89 journals were included in each of the above 3 groups.

Reference: Shamseer L, Hopewell S, Altman DG, Moher D, Schulz KF. Update on the endorsement of CONSORT by high impact factor journals: a survey of journal "Instructions to authors" in 2014. Trials. 2016:17:301

Average number of authors per MEDLINE citation is still on the rise

The US National Library of Medicine has published extracts from the 2016 Statistical Reports on MEDLINE®/PubMed® Baseline Data (https://www.nlm.nih.gov/bsd/authors1.html). In 2015, they were on average, 5.48 authors on a paper, compared to 1.50 in the 1950s (Figure 2, orange line). The collective author names (also known as group names or corporate names) did not increase over time (Figure 2, blue line). For the top 25 publishing countries, the top 5 pairs of collaborating countries, based on author affiliations, were: 1. US and China (14,853 papers), 2. US and the United Kingdom (11,384), 3. US and Germany (8,421), 4. US and Canada (8,044), and 5. Germany and the United Kingdom (7,955).

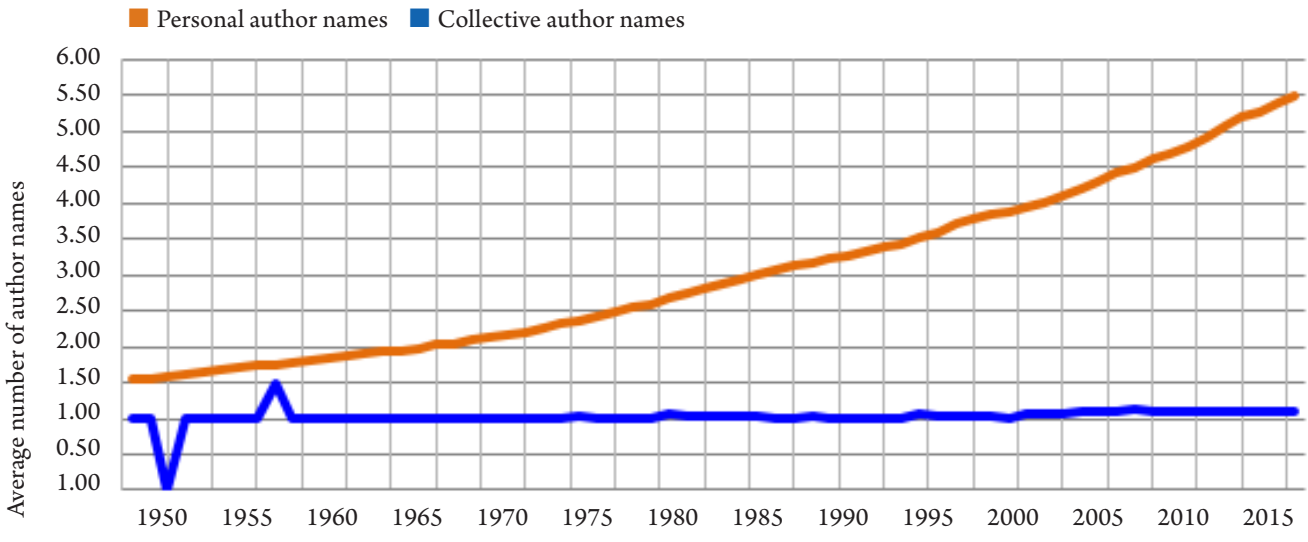

Figure 2: ***Average number of personal names or collective author names per MEDLINE/Pubmed citation per year from 1950 to 2015***

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