

Half a century of analysis of instructions to authors: preliminary results of a systematic review and a metaanalysis

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Introduction

In the preface of the first issue of Philosophical Transactions in 1665, Henry Oldenburg wrote: “*Whereas there is nothing more necessary for promoting the improvement of Philosophical Matters, than the communicating to such things as are discovered or put in practise by others; ...to the end, that such Productions being clearly and truly communicated...*”¹ In the centuries to come, the fields of inquiry grew to such a degree that today they are published in more than 36 000 scientific journals.² In the last few decades most of scientific publishing switched from print based to electronic formats, different financial and peer review models were being explored, and the emphasis on “*clear and true*” reporting had been reinstated with publishing of multiple reporting guidelines and increasing calls for replications of studies.^{3,4}

Yet published science is not flawless. Corrections such as errata are published for approximately 4% of all published papers today, with a quarter of the corrections drastically changing the conclusions of the studies.⁵ Another peculiarity is the fact that the quality of a study is perceived to be reflected by the journal in which it is published.⁶ Additionally, many journals mandate the number of words, formats, and even the number of authors the papers may have, with the submission of the paper to a journal often being perceived as needlessly complicated and long.⁷ Instructions to authors (ItA), the documents that are supposed to help authors prepare their manuscripts for submission and inform the authors of journals’ policies, today cover topics, that the editors in the past did not perceive as part of scientific publishing (e.g. a 1966 study reported most medical journal editors did not see as being part of their responsibility to check or monitor that the researchers followed ethical guidelines regarding human experimentation).⁸

It was therefore our goal to explore the changes that have occurred in journals’ instructions to authors through time, especially regarding peer review.

Methods

The systematic review included all studies that have analysed ItAs of more than one journal, irrespective of the topic(s) or parts within the ItAs that were analysed.

Information sources

The search was conducted on 1st of May 2017 in MEDLINE (through Ovid), Scopus and WoS. There were no language or time restrictions. The full search strategy is available from the authors and will be published with the study.

Study selection

The search results were exported in Rayyan software, where manual deduplication done by MMal led to a total of 783 articles for screening.⁹ Abstracts were screened independently by MMal and AJ, leading to a 167 possible studies for inclusion (15 studies were later excluded for not being analysis of ItAs, while 12 studies were found using Google Scholar and through the references of screened studies).

Data collection process and data items

The following variables were extracted: 1) year when the ItAs were accessed, 2) number of journals whose ItAs were analysed, 3) journal selection method, 4) journals scientific area, 5) journal country of publication, 6) the method used for analysis of ItA, 7) the number of topics that were analysed in ItAs, 8) the number and percentage of journals which mentioned the analysed topics. All raw data will be published with the study.

Preliminary results

In total 141 studies were included for analysis. The studies were published from 1987 till 2017 (Figure 2), while the analysed ItA dated from 1967 till 2017. Median number of journals instructions to authors analysed per study was 56 (IQR 20 to 56). The median number of studies which analysed appearance of a same topic within instruction to authors of journals was 3 (IQR 1 to 12). Forty topics were analysed only in one study, and 26 were

analysed in more than 10 studies (Figure 1). Percentages of ItAs mentioning peer review show large variation (Figure 2). Studies that have followed the same journals over time show an increase in mentioning of peer review (Figure 2). Additionally, while older studies have most often looked at peer review in instructions to authors of journals published in different countries, newer studies usually focus on country specific journals (Figure 3).

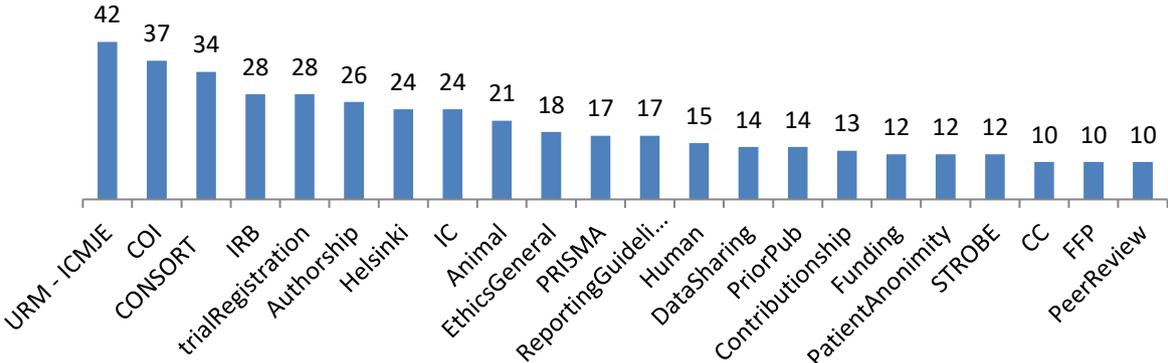


Figure 1. Topics analysed in 10 or more different studies, order by the total number of studies in which they were analysed.

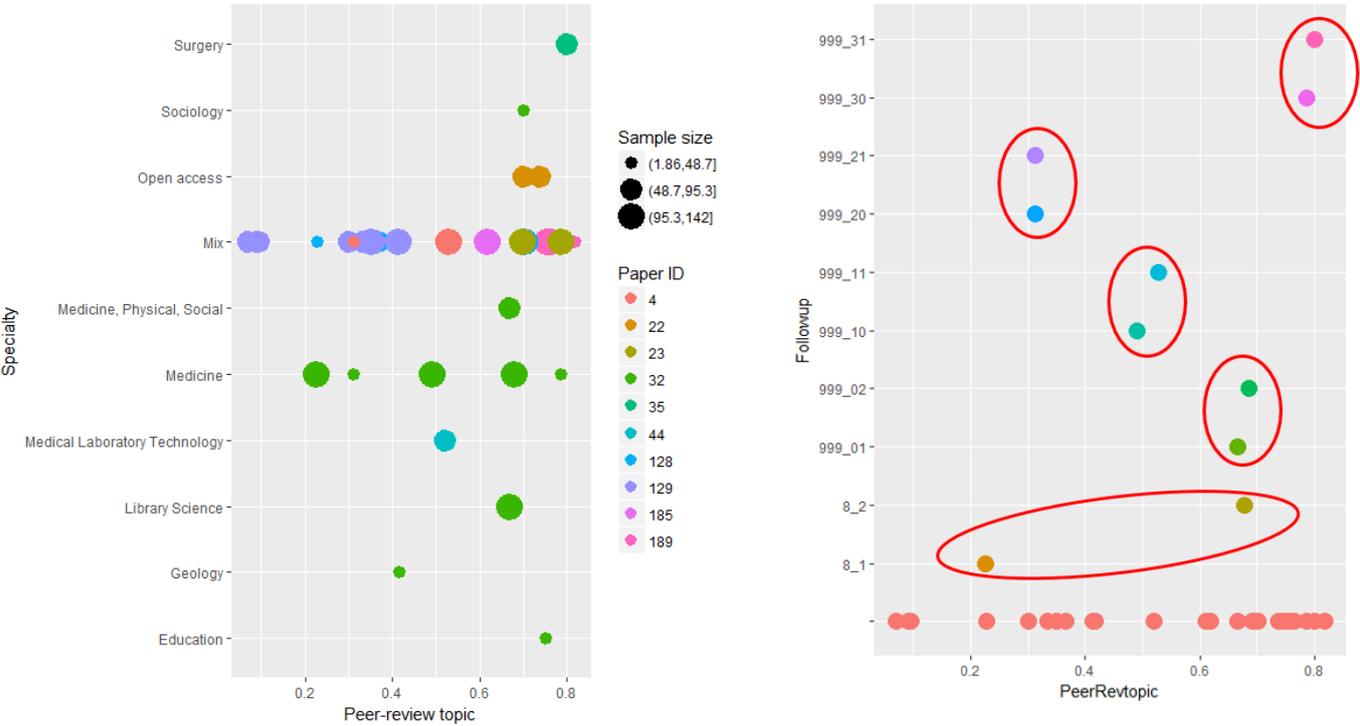


Figure 2. On the left: percentage of instructions to authors that mention peer review grouped by study (paper id number) and scientific area. The size of the circle indicates the sample size of analysed instructions to authors in a particular study. On the right: percentage of

instructions to authors that mention peer review in studies that followed the same cohort of journals over time.

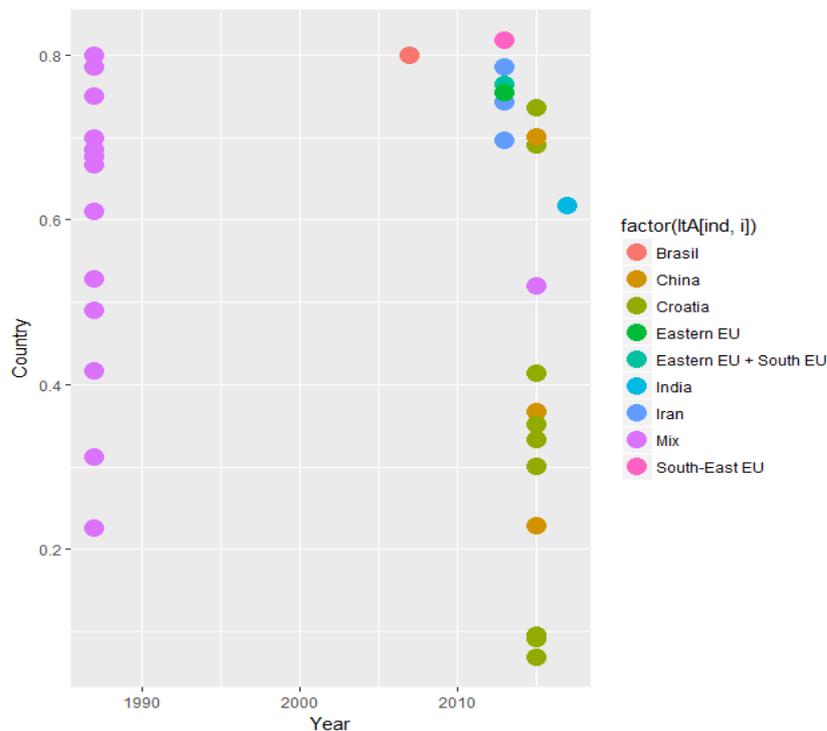


Figure 3. Distribution of studies analysing peer review in instructions to authors of journals based on the country of sampled journals. The Y axis represents the percentage of journals mentioning peer review.

Discussion

Our preliminary results indicate that mentioning of peer review in journals' instruction to authors has increased with time, but still shows a great variation between countries and scientific fields. As improvement of reporting of studies has been shown to be influenced by the endorsement or mentioning of reporting guidelines within the journals' instructions to authors,^{10, 11} it is also possible that a more detailed description of the peer review process, with detailed description on what the studies will be judge upon, may lead to an increase in the quality of manuscripts submitted to journals.

Note

The study will be finished in February 2018 and final results presented at the conference.

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