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Why Is Redundant **Publication a Problem?**

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f the purpose of medical journals is to disseminate research findings, it might seem illogical that editors generally forbid multiple publication of the same data in different journals. However, there are three important reasons why this is the case. First, redundant publication can bias the results of systematic reviews using meta-analysis. Second, multiple publication wastes resources. Third, since academic credit is based on the number of publications, redundant publication may give an unfair advantage to the authors.

The Effect on Meta-analyses

Medical guidelines are increasingly based on systematic reviews, which survey the complete literature on a topic and assess it objectively. When there are several published studies on a treatment, the results may be combined using the statistical techniques of meta-analysis. If a single study is inadvertently included more than once in a meta-analysis, it will skew the findings in a similar way to double counting patients in a study. The effect of including redundant publications in a meta-analysis was clearly demonstrated by Tramèr, et al, who showed that their calculation of the efficacy of the anti-emetic ondansetron (expressed as the "number needed to treat") had been skewed by including three studies which they described as "covert" (*ie*, hidden) redundant publications.¹ In this case, they believed that the drug manufacturer had attempted to present the

most positive trials more than once and had deliberately tried to hide the fact that they were presenting the same data several times, for example, by altering the authors and the way in which the data were presented in different versions.

The Effect on Journal Resources

Finding suitable peer reviewers for submissions is the biggest task for journal editors. Peer reviewers are generally unpaid but are prepared to take time from their own research to review the work of others, knowing that, when they publish their own work, this courtesy will be extended to them. This altruistic behavior is the basis of scholarly publication. Reviewers' time is therefore precious and journal editors do not want to waste it. One could even argue that time spent on peer review reduces the time available for research and therefore reduces overall productivity. Therefore, journals do not want to waste reviewers' time on articles that have already been peer-reviewed and published elsewhere (and this also explains why journals do not allow authors to submit their work to more than one journal at the same time even if they intend to withdraw it when it is accepted by one of the journals.²)

Redundant publication may also be viewed as a waste of journal resources, which may prevent other researchers from publishing their work. Especially in the case of print journals, editors work within a strict page budget and can only accept

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and publish a finite number of articles each year. Although the economics of publishing have changed with electronic publications and Open Access journals that charge authors rather than readers, multiple publication still represents a waste of resources since the journal must still invest in typesetting, formatting, administration, computer systems, indexing, etc, and authors generally use research funds to pay article processing charges. Furthermore, if an article is freely available to all readers in an Open Access journal, there is no benefit to readers if it appears in a second journal; therefore, it can be argued that such multiple publication is simply inefficient.

The Effect on Academic Rewards

Academic productivity is generally measured by the number of articles a researcher publishes. To obtain a degree, receive funding, or get an appointment or promotion, researchers often need a certain number of publications. The assumption behind this system is that each publication represents a unique piece of research. Therefore, if researchers publish the same findings more than once, this may be viewed as unfair and an attempt to falsely inflate their academic record.

These three important reasons explain why most journals do not wish to consider work that has been published before.

Is Multiple Publication Always a Problem?

As described above, it is unethical for authors to attempt to publish original data in a primary publication in more than one journal without informing both journals about these facts. Not only is this considered a form of publication misconduct, it also usually breaches copyright (which is generally held by the journal that first publishes the work). However, under certain circumstances, journals may republish information that has appeared in other journals, but this should always be done transparently and with explicit permission from the copyright holder. The most common type of publication that may be published ethically in multiple journals is guidelines, to ensure their uptake. Reporting guidelines, such as CONSORT,³ have been published in several journals, as have treatment guidelines and other publishing guidelines such as those from COPE and the International Committee of Medical Journal Editors (ICMJE).⁴

The ICMJE guidelines explain the circumstances under which material may be published more than once, for example in translation.⁴ They recommend that this is permissible if the original publisher gives permission, and only if the republication is made clear to both the editor of the second journal and its readers. If the multiple publication or translation is clearly indicated, it will not cause confusion in a systematic review and if the original publisher gives permission, there will be no problems with copyright.

Is Redundant Publication the Same as Duplicate or Multiple Publication?

Several terms are used to describe similar phenomena including redundant publication, duplicate publication, text recycling, and salami slicing. Redundant publication refers to any type of publication where some or all the content is repeated by the original authors, usually without proper disclosure. Strictly speaking, duplicate publication refers to an identical second republishing of a complete article, although the term is also used more loosely (particularly in the USA and by ICMJE) as a synonym for redundant publication. Text recycling describes cases in which authors reuse text in more than one publication. In some cases, there may be legitimate reasons for this; for example, repetition of standard methods or descriptions of common data sources. Some degree of text recycling may also be inevitable if an author writes several chapters, editorials, or commentaries on similar topics, however, copyright should always be respected and authors should always inform editors if they have already published similar material. Most people view recycling of text as less of a problem than repetition of data (and sometimes unavoidable). COPE recently issued guidelines on text recycling.⁵ Salami slicing describes the practice of dividing data from a single study into several publications, especially when this is inappropriate and done to boost the author's publications rather than to present the research in the clearest possible way.

How Should Journals Respond to Redundant Publication?

The correct response to redundant publication is described in a COPE flowchart.⁶ In cases of clear and substantial redundancy. COPE recommends that the second version should be retracted. Retraction sends a clear signal to readers (preventing any possible confusion) and to authors (indicating that the journal will not tolerate such behavior). Clear-cut cases in which authors publish identical or virtually identical articles in more than one journal are relatively straightforward to handle, however, cases of partial overlap may pose more problems for editors. If authors have salami sliced their work and published articles that contain some identical information to previous articles and some new elements, it may not be appropriate to retract the second publication since this would deny readers access to novel information. In such cases, it is more appropriate for both affected journals to publish notices

of redundant publication. Both notices of redundant publication and retractions should be linked to the articles to which they relate and clearly identifiable to readers (*eg*, in journal tables of contents and bibliographic indices such as *Medline*). Retractions should follow the COPE guidelines.⁷

Occasionally, an article gets published more than once because of an administrative error by the journal or publisher.⁸ In such cases, the retraction should clearly indicate that the authors were not at fault and state the cause of the repetition.

Attempts at redundant publication are increasingly being detected before acceptance by journals that use text-matching software, which can identify both plagiarism and redundant publication. It may also be detected by peer reviewers, for example if two journals invite the same person to review the same manuscript. In such cases, the journal should obviously refuse to publish redundant material and in serious cases, they should also inform the authors' institution(s). If cases of partial overlap, minor text recycling or salami slicing are detected before acceptance, the editor may ask authors to remove the redundant material.

The COPE flowchart on redundant publication also recommends that editors should inform the authors' institution(s) about cases of redundant publication.⁶

How Should Institutions Respond to Redundant Publication?

Redundant publication is considered a form of publication misconduct; therefore, academic institutions should have policies about how to respond to it. The response is likely to vary depending on the seniority of the authors and the circumstances. Institutions should also offer training in research and publication ethics to ensure

editorial

Redundant Publication

that all researchers understand the principles.

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