



Review Article

Deciphering dimensions of overlapping publications

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ABSTRACT

Proving research efficiency and academic growth by the number of publications flag the researchers to publish more articles from a single dataset. They are crossing into unethical practices such as self-plagiarism, duplicate publication, and other research misconducts, which warrant disciplinary action against them. The thrust of this review is to draw the attention of the authors, reviewers, editors, and readers toward different dimensions of overlapping publications in research. Various guidelines and ethical bodies such as Committee on Publication Ethics and International Committee of Medical Journal Editors were considered for the review. The present review provides an expansive outline of publication overlap available in the literature. The reasons for conducting and problems associated with different types of overlapping publications are identified. Preventive and remedial measures as well as recommendations for authors, editors, and reviewers have been highlighted. Because of the strain to “publish or perish” from the researchers’ end, journals are ending up being flooded with overlapping publications.

Keywords: Duplicate publication, Salami slicing, Overlapping publication, Research

INTRODUCTION

Researchers these days are stressed as their research efficiency and academic advancement is directly linked to the the number of publications they have authored.^[1,2] These circumstances cause them to publish more journal articles from one dataset. Following the recognizable axiom of “what gets measured, gets done,” researchers seeking professional achievement are focusing extensively on publishing.^[1] As long as authors ensure significant contribution from one data set honestly and transparently, the integrity of good research practice is maintained. Advancement in the field of research is not defended when utilizing the same dataset and crossing into self-plagiarism, duplicate publication, other misconducts, etc.^[3] This unethical research conduct warrants prompt disciplinary action or sanctions from the journal editors.^[4]

The majority of the overlapping publications are typically seen in medical journals (75%) when compared with other fields.^[5] These unethical publications are somehow reported by the readers in prestigious journals, but they often go undetected in less prominent journals.^[6] There are numerous problems associated with overlapping publications that are not disclosed to editors or readers.^[5-8] Nevertheless, with the help of electronic databases, it is now easy to uncover authors who commit these practices for advancing their academic interests.^[6]

Whereas there are many pragmatic reasons for publishing more articles from one dataset, the question emerges when this reuse may become unethical. This article aims to draw the attention of the authors, reviewers, editors, and readers toward different dimensions of overlapping publications in research. They should be familiar with the gray areas of overlapping publications

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associated with opaque data reuse and delineate between acceptable and unethical overlapping publications.

REVIEW GUIDELINES

The present review has considered guidelines as outlined by these ethical bodies.

1. Committee on Publication Ethics (COPE),^[9]
2. International Committee of Medical Journal Editors (ICMJE),^[8]
3. European Association of Science Editors,^[10]
4. Council of Science Editors,^[11]
5. American Psychological Association,^[12]
6. International Standards for Authors,^[13]
7. World Association of Medical Editors.^[14]

The various types of overlapping publication as defined in the literature.

RESULTS

Duplicate submission

It is the unethical practice of submitting the same manuscript in same or different languages simultaneously to more than one journal. There are high chances that unknowingly editors will continue with the usual peer-review process and publish the article.^[8]

Duplicate/multiple/redundant/repetitive publication

The publication which overlaps significantly with one previously published, without giving citation to the previous publication, that is, both the papers share similar information without cross-reference.^[8] The new publication might be the same or contrast to the previous by few minor changes such as author sequence, title, and abstract.^[15] This will only benefit the researchers in increasing the number of publications. The scientific community will be at a loss as it will come out with no new source of information. The duplicate publication has a spectrum ranging from submission to or the publication of identical manuscripts in different journals at the upper end to salami publications at the lower end.^[16] As per Editors of Cardiothoracic Journals,^[17] all the 6 points should be considered to decide for redundant publication.

- a. Similar hypothesis
 - b. Similar sample size
 - c. Identical or almost identical methodology
 - d. Similar results
 - e. At least one author in common in both manuscripts
 - f. No new information or new information of little relevance.
- Journal guidelines have classified duplicate publication as literal duplication, partial but substantial duplication, or even duplication by paraphrasing depending on the degree of overlap between the publications.^[18]

Von Elm *et al.* in their article^[19] classified different types of duplicate publications as:

1. Same sample, identical results
 - a. Reproduction of a previous article (article normally copied)
 - b. Different original articles combined to form an additional article (generally in a sponsored supplement)
2. Same sample but different results (fragmentation of scientific information)
3. Different samples with identical results
 - a. Larger sample (definitive article after a preliminary article)
 - b. Smaller sample (the breakdown of data from an international study, translations)
4. Different samples and different results (confirmation of duplicity only demonstrable because of authors)

The duplicate publication can be further divided as:

- a. Data aggregation/augmentation/meat extending
- b. Data disaggregation
- c. Data segmentation
- d. Reanalysis of the same data
- e. Same data; different conclusions.

Data aggregation/augmentation

Authors here publish the same publication with some additional new data, and although conceptually the article is the same, it will differ numerically (means and standard deviations, figures, and graphs). The reader is never informed that a portion of the data being described had already been published.^[15]

Data disaggregation

Here, new publication may consist of the original data set minus a few data points now considered outliers, or perhaps data points at both ends of their range that happen to lie outside a newly established criterion for inclusion in the new analyses, or perhaps some other procedure that results in the exclusion of some of the data points appearing in the original study. New publication with the disaggregated data will contain different numerical outcomes (i.e., means and standard deviations), figures, and graphs.^[15]

Data segmentation/salami publication/least publishable unit/piecemeal publication

It is the unnecessary submission of findings from the same study piece by piece as opposed to a more integrative single (or fewer) manuscript(s).^[20] Data segmentation is a practice that is often subsumed under the heading of self-plagiarism, but which, technically is not necessarily a form of duplication or redundancy.^[15]

Segmenting of a large study into two or more publications may be a meaningful approach in research with more complex

variables or longitudinal studies, etc. However, it must be done with full transparency, that is, by citing relation to the earlier publication.^[15] As the boundaries between legitimate reuse of data and deceitful salami-slicing are hazy, authors unethically try to take advantage of it.^[1] The difference between the valid publications of multiple manuscripts from the same study versus piecemeal publication is an editorial judgment about whether it is necessary or desirable to publish multiple manuscripts versus a single manuscript or fewer manuscripts from the same study.^[20]

Opaque use of the data set in two different publications by unnecessary splicing breaks the trust of the readers and distorts scientific evidence. Readers may believe that the data presented in each publication are independently derived from a different data collection effort or subject sample.^[18] At times, salami-slicing can be difficult to determine but only became apparent by carefully reading the research method sections of the concerned publications.

Reanalysis of the same data

On a few occasions, authors analyze the previous data using a recently introduced novel technique or using the same technique but in a new way. However, it is expected from the authors to be fully transparent with the readers.^[15]

Same data; different conclusions

Under this, authors publish the same dataset but give a different textual slant within the paper with ambiguous or non-existent information of primary publication. A slightly different interpretation of the conclusion sometimes works for the authors and goes unnoticed in low-quality journals.^[15]

Prior publication

Prior publication may include the release of information in the public domain. The authors should inform the editors if the results of the manuscript submitted are released anywhere in the literature so that the editor can decide how to handle the submission. Publications of a preliminary report like a letter to the editor, a preprint, or an abstract or poster displayed at a scientific meeting, scientific presentation, and press reports of scheduled meetings are not usually regarded as breaches of this rule. Sharing with public media, government agencies, or manufacturers, the scientific information described in a paper or a letter to the editor that has been accepted but not yet published violates the policies of many journals. The parameters of prior publication rest upon journal guidelines.^[8,9]

Acceptable secondary publication

There are certain conditions in which secondary publication is merited like when it is proposed to publish significant

data to the stretched out conceivable audience (e.g., some guidelines by apex bodies or landmark research in a different language).^[8]

Conditions justified by ICMJE as secondary publication provided the following conditions are met:

1. When authors get the approval from the editors of both the journals. Journal publishing second is well aware of the primary publication.
2. Both the editors are convinced of secondary publication concerning the publication interval from the initial publication.
3. When proposed for an expanded audience group. A truncated version should suffice.
4. The secondary publication mirrors the authors, data, interpretations, and conclusions of the primary one.
5. The secondary version enlightens readers, peers, and editors that the research paper has been published incomplete and fully cross-reference the primary version.
6. The title of the secondary publication should highlight that it is a secondary publication (complete or abridged republication or translation) of a primary publication.
7. Republishing of an article is possible if the literature is something historic or a landmark and both authors and editors agree to do the same.
8. If the manuscript has multiple authors, an actual duplicate publication will also require the consent of all the authors.

Secondary analyses of clinical trial data should cite all the previous publications, clearly stating the purpose of a new publication.

Competing manuscripts based on the same study

Publishing different versions of the manuscripts of the same study owing to the difference in reported methods/results or analysis/interpretation may waste journal space and confuse the readers. Whereas, if editors intentionally publish a manuscript written by a few of the coinvestigators, they could be preventing others from their genuine coauthorship rights and reader's access to legitimate differences of opinion of the coinvestigators.^[8,21]

In general, two kinds of competing submissions are considered: Coworkers submission who differ on the analysis and interpretation of their study and who disagree on what the data are and which data should be reported.

Scenario 1: Differences in analysis or interpretation

When the collaborators could not agree to the same version of the study, since their analysis and interpretation clash and the general peer-review process could not resolve the dispute. In this scenario, the authors shall submit both versions of the manuscript each, with justifying titles. The

difference should be clarified in the cover letter. The peer and editorial review may assist the authors in resolving their contradiction in regard to analysis or interpretation. In case, the peer-review process could not resolve the dispute, and the study requires both the versions to be published, it will be viewed as an independent publication. Publishing two papers on the same study or a solitary paper with two analyses or interpretations remain the alternatives. In such cases, it would be better for the editor to publish a statement outlining the difference and the journal's involvement in endeavors to determine it.

Scenario 2: Differences in reported methods or results

When the collaborators disagree or raise a debate on what was done or seen during the study, the journal editor should reject publication until the contradiction is settled. The authors cannot expect the peer-review to resolve such disputes. If there are charges of dishonesty or fraud, editors should inform the suitable authorities; authors should be informed of an editor's intention to report a suspicion of research misconduct.

Competing manuscripts based on the same database

Journals sometimes receive manuscripts from different researchers who may have investigated using the same data set, for example, a public database. These submissions vary in terms in their analytical methods, conclusions, or interpretations. In such scenarios, each manuscript will be considered independent and distinct. If the interpretation is alike in both the submissions, it is tough for the editors to decide which one has the better perspective. It may seem fair but no longer obligatory for the editors to prefer the submission they've received first. However, in some of the cases, the editors may publish both the submissions.^[8,21]

Reasons for overlapping publication

There are several justifications offered by authors for producing overlapping publications and are enlisted below:^[2,5-7]

- Longitudinal studies with multiple evaluations
- Disseminating the interim results
- Publishing in different languages
- Approaching different target audiences in different journals
- Publishing in reputed journals with strict word limits
- Proving to financial agencies by showing that progress is being made
- Publishing different research questions that sometimes merit a different paper
- The pressure to show research productivity
- Journals and authors do not think the issue is serious
- Journals do not publicly condemn the practice

- Lack of strict punishment rules
- Flesh out own resume
- Academic recognition.

Problems associated with the overlapping publication

- Unethical^[5]
- Degrades journal reputations^[8]
- Wastage of time of editors, peer-reviewers, and readers^[8]
- Wastage of journal resources and denies other good research for publication^[5]
- Increase publication waiting time of journals which annoys other researchers^[5,8]
- Needlessly expands the available literature^[5]
- Flawed systematic review and meta-analysis^[5]
- Misleads academic reward system^[8]
- Infringes on copyright^[5]
- Breach of research integrity^[5]
- Fraudulent promotion of rank.^[5,8]

Preventive and remedial measures for overlapping publications

The time has come for editors, authors, and academic leaders to jointly clarify and enforce mutually acceptable standards on unethical overlapping publications. As pointed out by many authors, the primary prevention of duplicate publication would require a change in academic reward systems and penalties within academic institutions and government agencies.^[22,23] Editors are obliged to take secondary prevention measures so that the effect of such measures may discourage future practice.^[24]

Authors

Standards for utilizing data in multiple publications vary from “unacceptable” to “inform the Editors” and “inform the readers via citations to the other work(s).”^[1] The obligation is on authors to convince the editors by proving merit in submitting multiple manuscripts from the same data set. Authors must consider prudently whether opting for multiple publications is in the exceptional interest of the research community or whether it is self-centered in building their own academic house.

Authors should avoid submitting manuscripts simultaneously to two or more journals. They should abide by the best ethical practice rules of the journal by going through journal guidelines and submitting copyright form. Formerly published papers with no significant change in information should be avoided for consideration in another journal. One should provide complete information about any previous submission. Authors in subsequent publication must address unique and new research questions along with citations of primary publication so that degree of overlap and novelty can be decided by the editors and reviewers. Details of the

associated papers must be revealed by the authors in the desire to republish in a different language.

Reviewers

In the event of peer-reviewing, if reviewers come to know that the author has published parts of the dataset before, they should encourage the author to unveil this in their comments addressed to authors and editors. Reviewers should inform authors to have suitable permission from the editors while considering to republish in other languages. They should inform the authors that journal editors take strong objection to various reports of the same group of observations.

DISCUSSION

The present review has focused on different aspects of overlapping publications abuse in medical journals, its consequences, and remedial measures. It will help researchers to recognize and evaluate problematic cases of publication overlap. Overlapping publications if not conducted ethically, it is a serious breach to research integrity. Readers deserve to be able to trust that what they are referring to is original publication unless there is a piece of clear information that republication is done with the consensus of editors and authors. Authors who dare for duplicate publication without such information should expect at least prompt rejection of the submission. In a situation like an article has been published and the editor was not aware of the violations then the article might be retracted with or without the author's explanation or approval. However, if the editor feels that the overlap is minimal and the research community will be benefitted from new data, the editor could issue a notice of redundant publication. If the editor accepts the explanation of the authors that they made a certifiable error, an editor could issue a correction.^[8-12,14] More punitive actions such as restricting authors and affiliated institutions from future publications in journals belonging to an editorial group should be taken.^[7]

Various clarifications have been alluded to in the literature by authors for overlapping publications that showcase the lacunae present in our research and academic system. Researchers should not be accused exclusively for opaque data use in multiple publications since it is ingrained in everyone's mind, "the more publications authored by a researcher, the better his/her odds of acquiring a promotion or tenure."^[15] Whereas endeavors have been put to develop a set of criteria to evaluate faculty performance, the number of publications, as opposed to quality of the journals and/or the "impact" of the publications, is given priority.^[1] Another explanation can be the rise of alleged "predatory/pseudo journals." These journals publish practically all submissions without peer-review. However, researchers should abstain from submitting research to these entities.^[25]

Authors have put allegations to the scientific journals too for compelling the authors to attempt overlapping publications. They have argued that multiple submissions should be allowed as many reputed journals take a long time for deciding about the manuscript submitted.^[26] Many a time, out of two journals, one journal rejects and other journals, fortunately, accepts it. Delaying the publication for some new studies might lose the priority of the concept or ideas as other journals might publish it with a different set of researchers. Further reasons like limited journal space restrict authors to publish with limited no. of words. Consequently, authors have no choice left other than multiple publications if the study has many variables.^[27] In a few instances, we assume budding scientists may also be ignorant of the concept of publication overlap. However, publication overlap is frequently the planned result of scientists for self-serving motives. In a publish-perish world, researchers are inclined more toward publication count, thereby sacrificing research quality.^[5] By complying with the criteria of acceptable secondary publication, authors will be in the safer zone of publication overlap.

Researchers give the rationale of not disclosing the relationship between publications by saying that both reports were prepared and submitted simultaneously to different journals. However, this should not be taken as a valid explanation for overlapping publications. A very pragmatic explanation is given by the editors of the journals for authors to forbid multiple submissions. Multiple submission lead to sheer wastage of time of reviewers and finding a good reviewer is probably the toughest piece of an editor's job. Editors view them as an important resource and are reluctant to use their precious time in auditing an article that may be pulled back given publication misconduct.^[28]

Many journals who are part of COPE provide guidelines for the authors for submitting manuscripts. Editors can refer action flowcharts and resources for journal editors while investigating various research and publication misconducts including overlapping publications.^[29] There is a pressing need for journals to approach these unethical practices uniformly.

CONCLUSION

Researchers should be well aware of various aspects of research ethical guidelines. There should be proper training for young researchers by the institutions so that unethical practices can be avoided. Criteria for academic growth by referring to the number of publications should be changed to the quality of publications. Abiding by the journal's guidelines, authors can maintain a strategic distance from these unethical issues. They should be honest and transparent to the editors, reviewers, and readers. Vigilance is required from the reviewers and editors so that these practices should

not distort the evidence available. Strict actions to be taken by the editorial board if they come across research and publication misconduct cases.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

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