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Plagiarism: A silent epidemic in scientific writing – Reasons, recognition and remedies

Col Jyotindu Debnath ^{a,b,*}^a Editor in Chief, Medical Journal Armed Forces India, Armed Forces Medical College, Pune 411040, India^b Professor, Dept of Radiodiagnosis, Armed Forces Medical College, Pune 411040, India

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ABSTRACT

Plagiarism is one of the most serious forms of scientific misconduct prevalent today and is an important reason for significant proportion of rejection of manuscripts and retraction of published articles. It is time for the medical fraternity to unanimously adopt a 'zero tolerance' policy towards this menace. While responsibility for ensuring a plagiarism-free manuscript primarily lies with the authors, editors cannot absolve themselves of their accountability. The only way to write a plagiarism-free manuscript for an author is to write an article in his/her own words, literally and figuratively. This article discusses various types of plagiarism, reasons for increasingly reported instances of plagiarism, pros and cons of use of plagiarism detection tools for detecting plagiarism and role of authors and editors in preventing/avoiding plagiarism in a submitted manuscript. Regular usage of professional plagiarism detection tools for similarity checks with critical interpretation by the editorial team at the pre-review stage will certainly help in reducing the menace of plagiarism in submitted manuscripts.

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Introduction

Plagiarism, in simple terms, means the act of presenting someone else's work or idea as one's own without appropriate attribution/acknowledgement. Plagiarism is considered to be one of the most serious forms of scientific misconduct prevalent today and perhaps has already plagued the scientific publication process worldwide.^{1,2} A significant proportion of rejection of manuscripts and retraction of published articles are attributable to plagiarism. The frequently reported incidences of plagiarism in scientific publications may repre-

sent just the 'tip of the iceberg' with a much larger number of potential cases of plagiarism, which have not yet come to light. It is time for the medical fraternity to unanimously agree to confront the vexatious issue of plagiarism, and adopt a 'zero tolerance' policy towards this menace.

Types of plagiarism

Broadly, plagiarism can be of two types. Plagiarism of text is the most common form of plagiarism (Box 1). Plagiarism of text may be in the form of (a) simple copy-paste from a single or

* Tel.: +91 20 26330825; mobile: +91 7875900034.

E-mail address: jyotindu_debnath@rediffmail.com

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Box 1. Plagiarism of text

- **-Substantial copy-paste** from another work without giving proper credit/citation/acknowledgement to the original work.
- **-Literal copying:** reproducing word-by-word in part/whole document,
- **-Paraphrasing:** an act of restatement of text by carefully mixing up words without any change in the meaning,
- **-Text re-cycling (self plagiarism):** When an author re-uses parts of his/her previously published article in another article without giving suitable reference to the original work.

multiple sources without any citation, (b) mixing up of text from various sources without citation, (c) copy-paste from various sources with proper citation but the work per se does not have any original substance in it and (d) lastly, copy-paste from various sources with purposefully wrong citation to evade detection. Plagiarism of ideas is when an author passes off someone else's idea/concept as his/her own without giving proper credit/citation/acknowledgement to the original work. This type of plagiarism is difficult to detect.²⁻⁵

Reasons for plagiarism

Increasing instances of plagiarism reported these days could be due to one or more of the following reasons: (a) easy availability of information, (b) intense pressure for publication (publish or perish) in academia for career progression, (c) lack of confidence and writing skill, particularly amongst novices, (d) writing manuscripts in a hurry or under stress for achieving a target, (e) lack of awareness about what constitutes plagiarism, (f) lack of awareness amongst authors that it is incorrect to copy-paste word-by-word even if one gives reference to the original text, (g) many authors also believe that there is nothing wrong in using their own concept/data/text in a new article without citation, as it does not entail copying from someone else's work and (h) habitual plagiarists, those who can write a research paper in no time just by engaging themselves with their internet-enabled computers, as they have done in the past with or without getting caught.^{2,5}

Detection of plagiarism

The question before any conscientious editor is "How does one detect plagiarism in a submitted manuscript or an already published article?" One of the simplest methods is to copy-paste a few consecutive sentences or a few paragraphs of a text document in a search engine like Google and search for any similarities/matching words/sentences in any other document on the World Wide Web. However, this process is tedious and time consuming for checking an entire document. It is not uncommon these days for a researcher to find replication of his work in another published article by someone else without any suitable attribution/acknowledgement of the original

work. The irate original researcher/author has no option other than to inform either the publisher or the editor about the alleged plagiarism. Ideally, the editorial team should then investigate the matter as per existing guidelines (e.g. Committee on Publication Ethics, COPE flowcharts) on such issues, and based on their findings, they can initiate corrective action.

Role of plagiarism detection tool

It needs to be emphasized at this juncture that the primary responsibility for ensuring that a manuscript is free from plagiarism lies mainly with the authors. However, the Editorial Board of a journal is also accountable to a great extent for ensuring that all manuscripts published in their journal are reasonably free of plagiarism. With the availability of online manuscript submission systems, checking for plagiarism is not as difficult as it used to be during the era of 'hard copy' manuscript submission. In this context, a reliable, web-enabled, plagiarism detection tool (PDT) is a boon for the Editorial Board. There are a number of free as well as commercially available PDTs available today.³ Medical Journal Armed Forces India (MJAFI) has been using one such commercially available PDT (iThenticate) regularly since 2014 and the same has been found to be very useful in the detection of similarities of text in submitted manuscripts. All manuscripts submitted to MJAFI are screened for this 'similarity check' using iThenticate on submission to the journal as part of the pre-review check by the editorial team. It is suggested that all journals adopt similar screening measures for checking plagiarism at the entry level so as to avoid any plagiarism-related issues at a later date.

Most PDTs work on the principle of matching texts (word-by-word) in the document being tested with that of the existing database of the particular PDT. In order to detect similarity with a particular document, the document has to be available in the database of the PDT. Most of the PDTs are expected to update their database on a regular basis based on their subscription status for accessing a particular journal. iThenticate is one of the leading providers of plagiarism detection software having in its database over 56 billion web pages.⁶ iThenticate gives the results of its plagiarism check in the form of percentage of similarities. Different colour coding is used for different match sources. There is option to view and compare the tested document against the match source document side by side.

It is important to understand at this point that similarity checks through any PDT would only give an idea about matching texts available in the database of a particular PDT. The editorial team has to use its discretion and judgement to ascertain whether plagiarism exists or not in a tested document based on an overview of the manuscript in totality and not merely on percentages of similarity. Many commonly used words/phrases/part sentences may be shown as similar to some other documents. Hence, the role of the editorial team remains crucial for ensuring a correct interpretation of the similarity check results. As a disclaimer, it is clarified that iThenticate has been described here just because our journal has been using this particular PDT. Hence, no endorsement is intended or implied. Most of the PDTs work by matching texts

only and are therefore not valid for checking images/graphics. However, a detailed discussion of PDT is out of scope for the present viewpoint.

The deterrent penalty for suspected plagiarism depends on many factors, such as: (a) journal policy, (b) extent of plagiarism, (c) seniority of the author, (d) intention of the author, etc. The penalty may include one or more of the following: (a) letter of explanation/reprimand to the author/s, (b) rejection of the manuscript, (c) retraction of published manuscript, (d) intimation to authors' superior authority responsible for ensuring authors academic conduct in the institution and (e) even at times black listing of authors in the particular journal for a time period.⁷

Awareness and prevention at all levels is the only remedy for the vexatious issues of plagiarism. Authors, editors and to some extent reviewers have a vital role in ensuring that publications continue to remain free of plagiarism.¹⁻³ The following measures are suggested:

(A) For Authors:

- (1) All authors must be aware that plagiarism is considered as one of the most serious forms of publication misconduct and is also one of the major causes for article rejection and retraction by any journal.
- (2) Authors must be aware that, by and large, it is not difficult these days to detect plagiarism by an alert editorial team, irrespective of whatever methods are employed by the authors to deceive the editorial system of any journal.
- (3) One of the simplest ways to avoid plagiarism is to first read the relevant literature pertaining to any particular topic, to understand the topic and then to write about it in one's own language. It is important to ensure that one keeps all resource materials on that topic away when an author writes a manuscript. Initially, an author, particularly a beginner, may not have enough confidence in the writing skill without referring to a resource. However, this limitation can be overcome with practice. There are language-editing services available today for non-native English language authors. It is important to understand here that errors in sentence, formation/grammar, etc. can be corrected during revision. However, a plagiarized article is likely to be altogether rejected in the first instance by an alert editorial team.
- (4) In case, verbatim copy-paste is unavoidable for a portion of the manuscript, make sure that it is put under quotation marks.
- (5) Always cite references if even a small portion of the text or facts and figures are taken from any other study. It is always a good idea to acknowledge and give due credit to the original work in case an author has benefited from such work in any manner while planning and writing an article. Make sure that you cite the correct reference in the appropriate place in the text.
- (6) Authors have to cite references even if some of the contents are from their own previous work in the same or a different journal.

- (7) In case, an author wishes to incorporate a table or figure from another published/copyrighted material, it is essential to take prior permission from the copyright holder of such material and the same needs to be mentioned in the legend. Simply citing the reference or acknowledging the source is not adequate. Even when tables/figures are modified from published articles, permission from the copyright holder is required before reproducing in a fresh article.
 - (8) It is sensible not to write an article in haste. It is always advisable to take time to formulate thoughts and then write the manuscript in a stepwise manner. Abstracts must always be written at the end of the process.
 - (9) It is good idea to check for similarities through a PDT, irrespective of whether it is free or paid for. Please remember, similarity reports amongst different types of PDTs may vary depending on their existing database and various other factors. Low similarity index by one particular PDT is not a guaranty for an absence of plagiarism.
 - (10) Plagiarism cannot just happen by chance and hence should not be justified as unintentional or an honest error.
- (B) For Editors:
- (1) Journal editors must have access to a reliable PDT, which has a large database to check for similarity in all submitted manuscripts. An ideal PDT should be always up to date so as to detect content from recent documents. All tested documents should ideally be available in the archive of the PDT through the journal account for future reference.
 - (2) It is suggested that all articles submitted to a journal be checked for similarity index with the help of a professional PDT at the pre-review stage. No article should be processed for peer review, unless it is confirmed that the similarity level is within acceptable limits, which may vary from journal to journal.
 - (3) Editors should use their own judgement when interpreting results of PDT similarity checks and not merely go by the percentage results, as highlighted earlier, before a decision is made about acceptability of an article for further review.
 - (4) Checking for plagiarism is a task for editors rather than for reviewers. Reviewers are best utilized for critical review of a manuscript.
 - (5) In case similarities are noted in a submitted manuscript, which is not verbatim copy-pasted, authors may be advised to revise the manuscript in the specific areas where modification is required. In this manner, more authors will be encouraged to learn and address the issue of plagiarism, thereby increasing author compliance, while maintaining the journal publishing ethics.
 - (6) In case of blatant plagiarism in a submitted manuscript, a decision can be arrived at as per the COPE guidelines in this subject.
 - (7) Editors need to be able to identify 'prolific' authors and be aware of their habits. It may be a good idea to verify

the credentials of such authors from the available database before processing their manuscripts.

- (8) Authors' certificate may incorporate a statement declaring that the contents are original and the manuscript is plagiarism free. Such a statement may act as a deterrent for resorting to overt plagiarism.
- (9) A certificate from the Head of the Institution, stating that the work is original, may also serve as relative deterrent before resorting to any serious publication misconduct.
- (10) Instruction to authors of any journal must explicitly state the journal's policy on plagiarism.

Conclusion

Healthcare professionals need to unanimously agree to rout plagiarism and eradicate this scourge from the community of researchers. While responsibility for ensuring a plagiarism-free manuscript primarily lies with the authors, editors cannot absolve themselves of their accountability.

The only way to write a plagiarism-free manuscript for an author is to write an article in his/her own words, literally and figuratively. Poor language or grammar can be improved upon, not overt plagiarism. Editors have an increasing role to play in ensuring that manuscripts processed in their journal are free from plagiarism. Mandatory and regular usage of professional plagiarism detection tools for similarity checks with critical interpretation by the editorial team at the pre-review stage will certainly help in reducing the menace of plagiarism in the long run.

Conflict of interest

The author has none to declare.

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