

Plagiarism in Scientific Research: Needs Lock-up to Unlock the Ethical Publications

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Abstract

Plagiarism, a concern of copying the text and claiming to be one's own, is posing a never-ceasing challenge for those engaged in scientific research and ethical publications. Committing plagiarism intentionally is a punishable act, violating the moral and intellectual property of original author. Researchers must be aware of this sensitive issue and it may be amenable to further exploit this prominent aspect. Plagiarism needs to be potentially explored and exposed to all those contributing to the scientific research so as to lock it up universally. The present discussion is designed with a prime objective to provide an insight on how plagiarism is corrupting the scientific research and the keys to troubleshoot the declining reputation of the profession with special emphasis on pharmaceutical field. Herein, authors have tried to focus over the basics pertaining to plagiarism, a questionable fact in ethical publications. The manuscript could be beneficial to one who is at the entrance of research gate in scientific fields including pharmaceutical sector. The review embodies the fact that the plagiarism must be looked up by the researchers around the globe and awareness needs to be cultivated amongst

them to foster the culture tied with honesty, and professionalism.

Keywords: Plagiarism, Academic dishonesty, Research misconduct, Professional malpractices, Publication ethics

Introduction

Royal College of Physicians of Edinburg defined Research Misconduct as "any behavior of researcher, whether intentional or not, that fails to scrupulously respect high scientific and ethics standards". The research misconduct may include fabrication or falsification of data, problematic data presentation or analysis, failure to obtain ethical approval by a research ethics committee or to obtain the subject's informed consent, inappropriate claims of authorship, duplicated publications, undisclosed conflicts of interest, and plagiarism (1). An ethical research is all about giving credit to the owner of any intellect wherever it is desired.

Plagiarism is one of the most ignitable issues in the scientific research and the scientific journals around the globe are looking forward about the evaluation of research investigations or manuscripts for plagiarism. Plagiarism is a

serious breach of research ethics and if it is committed intentionally, it is considered as a punishable offence. It is unethical practice and it means failure to give appropriate credit, either accidentally or intentionally, for ideas or words or intellect that came from someone else's mind. It is not only to presenting the work of others as owns but also presenting the identical words or identical portions of manuscripts without giving appropriate citations or acknowledgement constitute plagiarism (2).

Plagiarism is very common in educational sector or academia, often to minimum extent, where authors do plagiarism by editing the original text and replacing the original words with the synonymous words or terms (1). Outside educational institutions, those who committed plagiarism are most likely to be prosecuted for breach of copyright. Copyright, in actual, is designed to protect the rights of an author. Plagiarism, while certainly breaching such rights, has a greater impact on reader's mind, by misleading origin for the material what the reader is reading (3). In brief, plagiarism is violation of the publication ethics.

Victoria university defines plagiarism as "plagiarism is presenting someone else's work as if it were your own, whether you mean to or not". Even if it is presented in one's own style or one's own words, still one must acknowledge the source fully and appropriately (4).

The Compact Oxford English Dictionary (2009) defines plagiarism as the act of "taking the work or idea of someone else and pass it off as one's own".

The term plagiarism was came from the English word "Plagiary" meaning 'one who wrongfully takes another's words or ideas' and derived from the Latin word "Plagarius" meaning 'kidnapper' (5).

There are many synonymous words reflecting the plagiarism practice like stealing, cheating, theft, misconduct, and dishonest which are used alternatively in the scientific field to address the plagiarism, not with correct terminology but with somewhat similar meaning.

In case, where there is a direct adoption of statement from another source and if we give the citation for this statement from the source from where it was adopted, it would not constitute any kind of plagiarism. Thus, it would be even more better, if we put the information in our own words, in a more informative and updated words alongwith the proper and full citation then, there would not be any issue of plagiarism.

Difference between Plagiarism and Paraphrasing: Plagiarism is if one uses someone else's findings or results or writing without giving the proper quote and without adding the source or citation in bibliography at the end of the manuscript. Sometimes giving only a part of the quotation and showing the rest of the quotation is one's own or giving the full quotation but without citation also contribute to plagiarism.

It is a common practice that someone may include a statement from a particular source and same statement has copied from an original article reported published previously a very long time ago. But, it does not constitute plagiarism if authors tend to cite the source in which that statement has been reported or the original article from where that statement has taken many times. Copying of the statement and putting it into manuscript without giving the citation of the source is plagiarism, in actual sense. Cross-referencing of the citations would always be better to avoid any chances of occurrence of plagiarism.

Paraphrasing is stating someone else's ideas or rewriting someone else's words in your own words. Quotation marks should be used to indicate the exact words of another author. If one uses the same words and grammatical structure as the original source (6).

Need and objectives: With the raising need of preventing or minimizing research misconduct in scientific and other allied research areas including the pharmaceutical-research sector, the editorials of various journals, research scientists, academicians, and students pursuing higher education must understand the concepts relevant to plagiarism and shoulder their responsibilities in avoiding the scientific or professional malpractices as a part of the scientific community.

The manuscript was designed herewith the objectives to provide primary and basic information related to the plagiarism, its types, detection, consequences to victim and plagiarist, strategies to avoid or minimize the plagiarism, and future challenges.

Reasons behind plagiarism (7): The prime reasons behind the occurrence of or prevalence of plagiarism, whether intentionally or unintentionally, includes;

- Lack of author's knowledge about ethical writing
- Improper or poor functioning of ethical committee
- Availability of very few journals on MEDLINE
- The rarity of authors commenting on the research integrity and maintenance of the same
- Some academicians need to increase the number of their publications

- Some students need to dropdown the heavy work load or the assignments given to them
- One may not understand how to use and appropriately cite or acknowledge the sources or references
- One may not have awareness regarding the citation of online material and unintentionally may commit plagiarism
- Author's ignorance about proper citation or referencing style
- Failure to keep notes or sources

Types of Plagiarism: The major types of plagiarism are described below.

Intentional plagiarism: The deliberate or deceptive act of copying is called as intentional plagiarism (5). The term intentional plagiarism could be attributed to the fact that the one who misuse the work of another author without giving proper credit or citation and reflect others as it was of his own, intentionally for his benefit. Intentional plagiarism is a worst offence in scientific research.

The major remarks of intentional plagiarism include:

- Buying readymade material from the internet vendors
- Downloading free access articles from the commercial websites or internet paper mills and utilizing the same as own
- Copying articles from the internet databases and presenting it as own
- Copying words or sentences or even paragraph from previously published articles
- Quoting only a part of the quote and pertaining that the remaining is own
- Making cut-paste of material from various sources without giving whole citation or quotation or acknowledging the attribution

Unintentional Plagiarism: The act of accidental copying and presenting contribute unintentional plagiarism. The unintentional plagiarism may be committed by the research students, research scientists or by academicians.

The major remarks of unintentional plagiarism include:

- Improper citation of a source
- Copying whole sentence and replacing or substituting few words
- Paraphrasing without giving citation
- Summarizing without citation
- Missing out punctuation in citation
- Giving an inappropriate or improper or incorrect information about the source of a quotation

The basic types of plagiarism are mentioned below (8, 9)

Plagiarism of Source: Plagiarism of source is committed if an author uses the citation of one source without acknowledging that the citation came from that source.

Plagiarism of Authorship: The term plagiarism of authorship occurs when one person claims to be an author of an entire bunch of work, fully or substantially authored by another person. The best example to understand this type is when one scientist submits a paper for publication that has already been published by another scientist.

Self-plagiarism: Self-plagiarism means duplication of publication. When one author replace few words or substitute few words in new manuscript taken from his own previously published manuscript, then such an act is referred to as self-plagiarism. Authors generally commit this type of plagiarism to increase their number of publications.

Plagiarism of Online Material

Many of the research scientists and writers hesitate to publish their research investigations or findings or intellect over the internet as online because they may be afraid of the fact that their work will be plagiarized and used without acknowledgement or attribution elsewhere. A junior researcher may have a fear in their mind that if they publish their research work online, their findings will be copied and published under the name of senior researchers and then it will become difficult for them to render readers to realize that the idea had originated elsewhere.

However, if such occurrence happens then the plagiarism may be detected by a service called Internet Wayback Archive Machine (archive.org). This service utilizes the dates of publication for detection of whether the work has been published previously or not.

Internet Wayback Archive Machine is a freely available and potentially very useful service for protecting the intellectual property rights or author's intellect (10).

Detection of Plagiarism

Following are the ways of detection of plagiarism:

1. Evaluation of manuscripts by expertise readers and reviewers those have an ability to judge the difference between the common knowledge and novelty in the manuscripts.
2. Checking for the references cited or listed in the bibliography section of the manuscript.
3. Checking the availability of the similar words or phrases simply by submitting 4-5 keywords from quotation marks in Google search box.
4. Use of detection software.

Use of plagiarism software now-a-days, is a common practice since one's research work needs to be guaranteed to be free from plagiarism

of any kind. This is better to use plagiarism detection software because it utilizes the advanced technological tool to find out whether the research work is plagiarized. These software are advantageous over other plagiarism detection tools because they allow the detection of plagiarism within the manuscript text by scanning it within few minutes to ensure that the manuscript is absolutely free of plagiarism and safe and one can go for its submission to any scientific journal. Also, if author is sure about his manuscript to be plagiarism free, then it would be beneficial to keep the research standard high, whether it is scientific or professional (industrial) or academic (institutional) (11, 12).

Following are few of the freely available plagiarism detection software:

1. VIPER
2. WRITE-CHECK (TURNITIN)
3. EVE (Essay Verification Engine)

Also, following listed are few of the links of websites where one can put their manuscripts so as to detect plagiarism:

- a) <http://www.articlechecker.com/> (Free)
- b) <http://www.dustball.com/cs/plagiarism.checker/> (Free)
- c) <http://www.scanmyessay.com/index.php> (Free)
- d) <http://www.duplichecker.com> (Free)
- e) <http://www.plagiarismchecker.com>
- f) <http://www.plagiarismdetect.com>
- g) <http://www.ithenticate.com>

However, the major limitation associated with some plagiarism detection software is that they does not search the books whilst they compare only the submitted work with the material that is already exist in an electronic format. Also, these software only detects the

plagiarized words or phrases but not the plagiarized thoughts or ideas (11).

Consequences of plagiarism

Consequences to Plagiarist: The possible consequences that plagiarist may suffer after finding that he/she has been suspected as plagiarized include;

- Loss of reputation or professional stature among the scientific community
- Loss of research fundings granted
- Rejection of manuscript if the suspect is a research scientist
- Withdrawal of manuscript, if published
- Author may be restricted or suspended from writing or may be black-listed for manuscript submission to the scientific journals
- Dissertation may not be accepted, in case if the plagiarist is a research student
- Grades may not be given or may be declined for research projects
- Degree may not be awarded to the student suspected as plagiarist
- Expulsion from the institution or university of the suspect
- Loss of job in case if the plagiarist is an employee of any professional organization

Consequences to Victim (14): The possible consequences that a plagiarized victim may suffer include;

- Violation of the collegial trust among the researchers
- Loss of research interest of the plagiarized author
- Theft of intellectual property of the plagiarized author

Strategies to Prevent or Avoid or Minimize Plagiarism (13, 15, 16)

Following are the strategies which one must follow to prevent or avoid or minimize plagiarism:

- Successful implementation of anti-plagiarism policies in institutions or universities
- Create an environment where high standard of academic and research integrity is valued and maintained
- Design of novel research projects that deter research students from plagiarizing
- Promotion of novel and original ideas by encouraging students
- Let everybody know, doing research or writing research manuscripts, about research writings, academic honesty, professional conduct, publication ethics, and plagiarism
- Keep portfolios of the research writings
- Appropriate note taking and citing each note in a sequential manner at appropriate places in the text and numbering properly in the bibliographic section
- Cite everything where one has doubt and if so, talk to research supervisor
- Review of manuscript by the expertise who can differentiate common knowledge from the novel ideas
- Foster a culture of honesty and integrity amongst the scientific community

Plagiarism Controversy (17): Here, we are making you all to know one issue of plagiarism suspected in India, In 2007, appeared a controversy in Anna University (India). Authors from Anna University and Indira Gandhi Centre for Atomic Research (IGCAR) published an

article in the Journal of Materials Science (Springer Link). The article written by K. Muthukumar, T. Mathews, S. Selladurai and R. Bokalawela was reported to be a reproduction of an article published earlier in Proceedings of the National Academy of Sciences (PNAS) by David Andersson and others at the Royal Institute of Technology, Sweden. Later on, the journal reported that the article 'does not just plagiarize the results presented in the PNAS paper but actually copies most of it word for word'. The three authors other than the first author had distanced themselves from the paper and the first author has accepted his mistake. In the meanwhile, the Anna University had barred Dr. Selladurai from guiding any more doctoral students. Also added each and everyone suspected Dr. Selladurai was putting blame on his student, because the professor was not capable of scientific activities. And also the Editorial of the journal found Prof. Selladurai was the corresponding author because the paper uploaded from his (University) computer IP address and the copyright form signed by him, the university found the student as a scapegoat for Prof. Selladurai.

Future perspectives and Challenges: Plagiarism is a problem of global concern and everybody, contributing to the scientific community, must be aware about the plagiarism. There is a stringent need of future to educate the students, researchers, academicians and industrial professionals about the relevant ethical issues of scientific publications and the plagiarism.

With the ever-increasing incidences of research misconduct, academic dishonesty, and professional malpractices, plagiarism is posing a big challenge in front of scientific community, converting professionalism into unprofessionalism and disturbing the reputation of scientific profession.

Conclusion

First and frontline key aspect which serves as a foundation to build a culture of honesty and professionalism in the vistas of scientific research is the ethical writing of research findings. A genuine researcher needs to adapt this culture to harvest the truthful attributes in the research so as to keep the researcher's intellect safe but unlocked.

The high standard of academic and research integrity could only be underpinned when the researchers successfully tackle the universal barrier of plagiarism. Once the sensitive issues of plagiarism have been thoroughly communicated among the scientific community, we may not be too far off seeing a culture bloomed with honesty, trustworthiness and ethical publications, which are of paramount importance in scientific pharmaceutical research.

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