



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

*International Journal of Current Research*  
Vol. 8, Issue, 11, pp.41212-41214, November, 2016

**INTERNATIONAL JOURNAL  
OF CURRENT RESEARCH**

## RESEARCH ARTICLE

### ETHICS IN SCIENTIFIC WRITING

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#### ARTICLE INFO

##### **Article History:**

Received 26<sup>th</sup> August, 2016  
Received in revised form  
17<sup>th</sup> September, 2016  
Accepted 23<sup>rd</sup> October, 2016  
Published online 30<sup>th</sup> November, 2016

#### ABSTRACT

Ethics are moral conduct which we learn throughout life. Ethics are essential in every walk of life. So, ethics are paramount importance in medical and in research. Unethical practices may be harmful for the subjects being treated in study or may bias the results of study. The objective of this article is to highlight the importance of ethics in medical research.

##### **Key words:**

Ethics, Plagiarism, Research writing.

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**Citation: Dr. Sandhya Jain, 2016.** "Ethics in scientific writing", *International Journal of Current Research*, 8, (11), 41212-41214.

## INTRODUCTION

**Ethics in scientific writing:** It is important to follow ethics in whatever we do. Same applies to scientific writing also. Often researchers are involved too much in writing and publishing to the extent that intentionally or unintentionally, ethics are forgotten. There is a need to create awareness about scientific ethics to avoid misconduct in scientific writing.

**Scientific misconduct:** There are prescribed guidelines by international or national bodies of concern specialty, which we should follow. Scientific misconduct includes malpractices like fabrication of data, manipulation of data, duplication of article, authorship conflicts etc. One should know different ways of dealing misconduct. How published misconduct is managed by COPE (committee on publication ethics). There are various programmes (software) to check this misconduct. COPE takes up cases of published malpractices and plagiarism. These are different ways to detect unethical publishing like various plagiarism detection software. These programmes tell us about which part of the content is copied from where, which site, book and the percentage of similarity between manuscript and other articles. The programme gives us the measure of similarity between the present and published articles in literature.

## Guideline

- Never duplicate work, sentences (Full or partial text).
- Always write reference for parts of manuscript picked from previously published articles.
- Avoid salami publication. (Publishing one study to several small articles).
- Never plagiarise (It is unethical to use of ideas, words, work of others without giving due credit).

If we have to use previously used data than we should obtain permission from publisher and should use data after providing proper citation and acknowledgement to previous work. There should be proper transparency in using previous data. Cases of duplicacy are dealt by COPE, if found guilty, article is retracted or withdrawn. Salami publication is another form of scientific misconduct which involves finding of one study into several parts to increase the number of publication of articles. The research project is breakup in to smaller parts. Plagiarism is attempting to use ideas, words, or work of other person without giving due credit. It is extremely unethical not to mention the name of another person from whom the idea or work has been used.

## Five types of plagiarism

- Copy paste
- Word switch
- Style
- Meta phor
- Idea

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Although there is no set rule about how much text matter could be used from published articles but it is generally ignored if copied matter is less than 20% from already published data. Code of conduct should be followed by scientific researchers to write research articles according to ethical standards.

### Following is some criteria to avoid plagiarism

- Ethical medical writers should acknowledge the original source of data. Even when only the idea is used.
- They must remember to enclose within quotation marks, all the text that has been copied from another source.
- To use someone else work or for paraphrasing, they should understand completely.
- Citation of references should not depend on exact lines of any article, if only idea of particular topic has been taken than the original article should be in reference.
- They must cite references accurately. The writer must read the instructions to authors to know what style they need to use. Biomedical journals commonly use the Vancouver style. Some textbook publishers prefer the Harvard referencing style. Insufficient and inaccurate acknowledgement can also amount to plagiarism.
- Along with the manuscript, they should submit a cover letter to the editor, clearly stating any instances of overlapping from previous publications and asking for advice.
- Last, but not the least, if he feels he has unintentionally used somebody else's ideas or text without appropriate referencing, he needs to write to the editor of the journal for advice. Confession is always better than to be caught stealing.

### Data manipulation (scientific misconduct in the form of data manipulation)

1. Falsification (willful distortion of data)
2. Fabrication (invention of data /cases)

Falsification is a problematic issue. In this data's are analyzed, reanalyzed statistically to find significant relationship. Data which meets the researcher's expectation are selectively published and presented as original target of the study, unexpected outcomes are left unpublished.

Manipulation of data is non ethical, it has deleterious effect on outcome of the study and scientific literature.

### Authorship conflicts

Intellectual contribution should be credited honestly. A deserving author should not be omitted. Bigger and more recognized names are generally used in the form of gift authorship. Gift authorship is granted as superior and recognized personalities in the field of specialty but the most deserved one should be rewarded. If deserving author name is left, in spite of his substantially intellectual contribution, this is referred to as Ghost authorship. All others involved in research should be mentioned under as acknowledgments.

### Listing the names

- Authors should be listed by their degree of involvement.

- Most active should be listed as 1<sup>st</sup> author or with corresponding power.
- Senior authors should be listed last.
- But all authors deserve fair credit where ever their names appear (rank - Right position)
- International committee of medical Journal editor (ICMJE) has given guideline for authorship criteria, which should be followed.

### Tips -to avoid authorship criteria

1. Read authorship guidelines. Describe contribution to paper/articles.
2. Decide in the beginning about authorship order for the project.
3. Put in writing about each authors contribution by them.
4. Clear in the beginning itself that if contribution change substantially, authorship will also be changed.
5. There should be transparency at different stage of project in cases if contribution has changed.
6. If disagreement arises, resolve it as early as possible by involving some appropriate experienced person.

### Detecting plagiarism

- Software is a common procedure nowadays. Example: iThenticate software.
- These software measures similarity between two articles (new and millions of published articles)
- Plagiarism could be searched through internet by using words, phrases, or suspect sentences.
- Give output of percentage of similarity between submitted and other articles.
- Few program for searching plagiarism are Viper, Turnitin etc.
- ICMJE international council of medical Journal editor guideline suggests that if there is sufficient intellectual contribution by a person than his or her name should be included as one of the authors.

### Contribution in the form of

- Concept and design of the work
- Work acquisition
- Analysis
- Interpretation of data
- Drafting work critically

### Any help received example

- Contribution of funding
- General administrative support
- Language editing
- Proof reading.

### Also need to be acknowledged

- Generally primary investigator is the 1<sup>st</sup> author or senior colleague e.g. Head of department. This should be followed by other based on their contribution.
- Sometimes honorary authorship includes gift authorship and Ghost authorship.
- Gift authorship is based on tenuous affiliation with a study.

- Guest authorship includes names of senior renamed person to increase the perceived status of publication.
- If the decision on authorship is decided in the beginning of the project, chances of conflict would be less.

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