

Ethical Issues in Research and Publications: A Review based on Available Literature

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Abstract:- Publication of research results is a responsibility of the researcher to ensure dissemination among stakeholders **Aim:** Identify the common ethical issues in research publications. **Methods:** Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines were followed for the selection of articles. **Result:** The most common ethical issues/concerns identified in the review included authorship issues, plagiarism, fabrication, salami slicing, conflict of Interest (authors and sponsors) etc. **Conclusion:** It is the responsibility of the investigator's and the editor to adhere to the ethical components in the publication process which ultimately helps in avoiding the practices involved in the scientific misconduct.

Keywords:- Ethical Issues/Problems, Research Paper/ Scientific Paper, Scientific Publications Or Research Publications.

I. INTRODUCTION

Research is a process of exploring facts, enabling scientific innovation and upgrading knowledge and practices.¹ After completion of a research it is vital to disseminate the results among stakeholders. Publication is one of the common, effective and time-tested approaches to widely disseminate the research findings across the globe.² It is therefore very essential for the researcher to provide accurate scientific information adhering to ethical principles and practices in conducting the research as well as in publishing process also.³

In publication process, ethical dilemma/issues arise at any level such as editorial, research community or within in the research team and failure to adhere ethical morals in publication process may result in reputation of researchers and their research work.⁴

II. NEED FOR THE STUDY:

A research project that is not well adjusted, well-planned, appropriately designed, ethically approved, or in the best interest of patients could be considered misconduct, according to the COPE.⁵ Integrity in research is very essential feature for the research fraternity. Adherence to ethical components in research publications is much important in the process of evidence generation and scientific publication.⁶ An increase demands for the publications in the academic filed with the various reasons like promotion, increment and recognition etc., ultimately resulted in the misconduct of the research publication. Those ethical issues such as problems authorship, false publications, conflict of interest etc.⁷

As research has become one the key element in every filed such as education, industry and a special provision was included in the recent National Educational Policy (NEP)-2020. The researchers, editors, publishers etc., must follow the ethical principles, so, that the misconduct/ unethical practices can be avoided in the field of research and publications. This study explores the ethical issues in publications, so that measures can be taken to prevent unethical practices in scientific paper publications. This will go a long way in having better scientific and ethical research publications.

➤ Aim

Aim of this review is to identify the common ethical issues in research publications.

➤ Objectives

To explore ethical issues addressed research publications and propose measures to avoid unethical publications

III. METHODOLOGY

Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines⁸ were followed for the selection of articles.

➤ *Search Strategy used for this review:*

Search for the literature in this study was done based on studies published between the years 2000 and 2021, by following these steps. A preliminary search was conducted using keywords in PubMed, CINHALL databases. The titles and abstracts of the retrieved studies were searched for any additional relevant keywords. A thorough search was conducted using additional keywords in databases such as Science Direct, ProQuest, Google Scholar, PubMed, CINHALL databases. Finally, the reference lists of key articles were searched for further studies.

➤ *Key words were used in this review*

Ethical issues/problems, research paper/ scientific paper, scientific publications, bio-medical publications or research publications

➤ *Criteria for inclusion of studies:*

The studies for this review were chosen based on the following criteria.

Only articles published in peer-reviewed journals in English only were taken into considered. Studies which were available in e-journals and electronic data bases. Studies with design like Descriptive surveys, cross-sectional designs and review articles and explaining the ethical issues/concerns. Studies containing terms such as ethical issues/problems, research paper/scientific paper, scientific publications, bio-

medical publications, or research publications were included. This review did not include abstracts from conferences, books, or grey literature.

➤ *Screening of the studies:*

Duplications were eliminated from the search articles after they were uploaded to the Zotero software. The two authors examined the titles and abstracts of the articles first to see if they were relevant to the review topic. Following that, comprehensive text screening was performed in accordance with the eligibility requirements. The two authors separately conducted the screening process at both the abstract and full text levels.

➤ *Extraction of the data:*

Data from the screened studies was extracted using the data extraction tool described in the JBI (Joana Briggs Institute) manual. Author, year, study location, study goal, results/findings, and conclusion were all utilized in the data extraction process.⁹

➤ *Outcome of the search:*

Through electronic databases, a total of 38276 studies were found. A total of 38222 studies were screened after removing the duplicates. 38190 studies were excluded after title and abstract screening because they didn't meet the review criteria. 32 full-text articles were reviewed for eligibility; 22 of them were eliminated because they didn't adhere to the criteria for inclusion. The PRISMA flowchart detailed the selection and elimination process. (**Figure 1**). Ten articles total were used for the qualitative narrative synthesis on issues and concerns related to ethics in research publications.

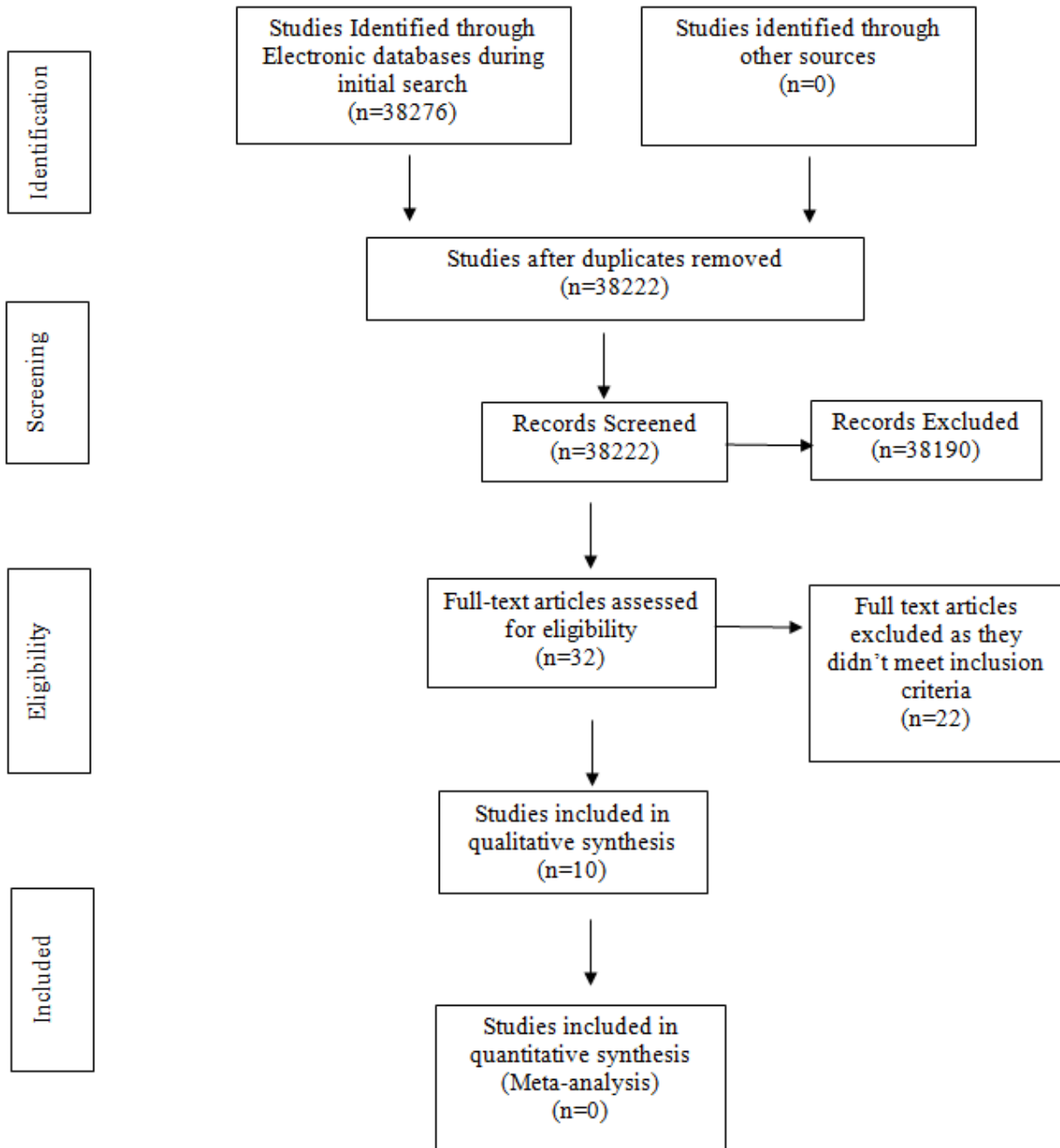


Fig 1: Study selection process based on PRISMA flow chart

IV. RESULTS

Table 1: Summary of the study findings

Author, Year & Location	Study Aim	Findings/Highlighted Ethical Issues (considerations)	Conclusion
1. Babolola et al., 2013, Farmington, United States of America ¹⁰	Ethical dilemmas in journal publications	<ul style="list-style-type: none"> • Ghost Authorship • Plagiarism • Fabrication • Falsification • Duplicate publication (Self-plagiarism) • Peer-review Bias • Salami slicing • Financial benefits • Conflict of Interest 	There is great pressure to publish, but following the integrity and ethics in publication are essential.
2. Atlas Michel C., 2003 Louisville, Kentucky ¹¹	Issues with ethics in high-impact biomedical journals' instructions to authors	<ul style="list-style-type: none"> • Uniform Instructions to the authors • Patient rights protection <ul style="list-style-type: none"> • Animal rights • Conflict of Interest • Cooperation to share the data/information for databases. 	Public concern about scientific integrity and misconduct is not adequately addressed by journal in the instructions to authors.
3. Bowmen et al., 2019 Illinois, United States of America ¹²	Determine the authorship in the scientific publications	<ul style="list-style-type: none"> • Gift authorship • Ghost authorship • Limits the authorship number 	Accurate authorship determines both credibility and ethical behaviour of researchers
4. Dingemann et al., 2011 Hannover, Germany ¹³	Identification of informed consent and ethical concerns reporting in paediatric surgical journals	<ul style="list-style-type: none"> • Lack of informed consent and ethical aspects reporting (Patient or Guardian informed consent) 	Every article that is accepted for publication needs to have information about informed consent and ethical approval. During the submission process, editors must pay special attention to these.
5. Fesser and Simon, 2008 Virginia, United States of America ¹⁴	Ethical allocation of authorship in research publications	<ul style="list-style-type: none"> • Honorary authorship • Coerced authorship • Ghost authorship 	An accurate authorship attribution is necessary for appropriately distributing intellectual and academic credit, and achieving the highest standards of professionalism, without which further work cannot be completed.
6. Ferris and Winker, 2017 Toronto, Canada ¹⁵	Recognizing the ethical challenges associated with publishing in predatory journals	<ul style="list-style-type: none"> • Academic deception • Absence of archived material • There is an apparent lack of editorial and publishing standards. • Waste of research and funding 	Everyone has a responsibility to support legitimate scientific research by avoiding publishing in predatory journals.
7. Chen, 2011 China ¹⁶	Determine authors ethical dilemma in the research Publication process	<ul style="list-style-type: none"> • Co-authorship • Peer review selection • Data reporting • Review process 	We as an editors/authors have a responsibility to be honest to the data, in order to preserve our profession's reputation and the integrity of scientific investigation (s)
8. Gillogly and Momen, 2006 Switzerland ¹⁷	Ethical dilemmas in scientific publications	<ul style="list-style-type: none"> • Ghost Authorship • Gift Authorship • Plagiarism • Fabrication • Falsification 	Editors are in a unique position to establish fair standards of practice, and they can begin by stating exactly how their journals work using consensus norms on publication ethics.

		<ul style="list-style-type: none"> • Duplicate submission and publication (Self-plagiarism) <ul style="list-style-type: none"> • Auto-citation • Salami slicing • Lack of ethical approval <ul style="list-style-type: none"> • Conflict of Interest 	
9. Kempers, 2001, Minnesota, United States of America ¹⁸	Ethical issues in Biomedical publications	<ul style="list-style-type: none"> • Authorship issues (Guest, honorary, order, • Peer-review (Lack Confidentiality) • Conflict of interest • Duplicate publication 	Determining these ethical problems ought to encourage people to play a more active role in creating and upholding the highest standards in biomedical research
10. Shah 2011 AIIMS, New Delhi, India ¹⁹	Ethical issues in Biomedical research publications	<ul style="list-style-type: none"> • Gift Authorship <ul style="list-style-type: none"> • Plagiarism • Fabrication • Falsification • Salami slicing • Redundant publications 	It is the responsibility of the investigator's and the editor to adhere to the ethical components in the publications process which ultimately helps in minimizing the scientific misconduct.

V. RESULTS

In this review a total of 10 studies were included. Most of the studies discussed about the issues in the authorship.^{10,12,14,16-19} Few studies focused on the ethical issues from the point of editors and reviewers such as peer-review (Reviewer/editor bias, Confidentiality of manuscript,¹⁵⁻¹⁸ and few studies focused on duplicate and multiple publications such as fabrication, falsification, salami slicing and redundant publications, plagiarism, lack of ethical approval and publications standards etc.,^{10,15-19}

VI. DISCUSSION

This review identified the most common ethical issues/concerns which are going to involve in the publication process of research/scientific papers or bio-medical publications.

Those are

➤ Authorship:

Authorship of a work in academic publishing/scientific publishing is claimed by individuals who contributed intellectually to the accomplishment of the study or project work. The recent decade made the benchmark of publications in the field of academic clinical professionals for the employment, promotion, and tenure. It results in committing some unethical practices in the publication process.

There are two types of ethical issues that arise when it comes to authorship of scientific manuscripts

- Gift/Guest/Honorary authorship
- Ghost authorship

- Gift authorship: Authors/researchers who did not make a significant contribution to the research work were included in the author's list, with the intention of more visibility/credit and ease of acceptance for the publication
- Ghost authorship: Authors/researchers who made a major contribution to the research work were excluded from author's list.^{10, 12}

The findings of the review strongly recommended that, as an academic researcher it is very important to follow the ethical norms in authorship as per the criteria given by ICMJE (International Committee of Medical Journal Editors).²⁰

➤ Plagiarism:

When you use someone else's words or ideas in your own work without giving them proper credit, whether with or without their consent, you are committing plagiarism. This is one of the most prevalent forms of research publication misconduct.²¹

➤ Duplicate publication (Self-plagiarism):

Self-plagiarism has received more attention recently. This happens when an author publishes a paper that contains sentences or paragraphs that have previously been published by the same author, but without attribution.²²This is considered as one of the misconduct in scientific publication and very serious concern and It's all depends on the researcher integrity.²³

There are certain online tools/software like Turnitin, Urkund etc., the researcher and publishers must check for the plagiarism using these plagiarism detectors before publishing.

➤ Fabrication and Falsification

The three "cardinal sins" of research conduct are falsification, fabrication, and plagiarism.²⁴

➤ *Fabrication:*

It is the addition of data, results, or personal attributes that were not present during the data collection or trial process.¹⁷

➤ *Falsification*

It occurs when research findings or data are altered or denied in order to support hypotheses, or other considerations. This can also occur when data collection techniques, materials, or other processes are manipulated.¹⁸ The current review reflected on incorporation of these three cardinal sins in research paper publication will destroy the reputation of the researchers or investigators.

➤ *Salami slicing*

It is the method of slicing a huge study into smaller published articles that could have been reported in a single research paper.^{10, 17}

Due to rapid increase of pressure on no. of publications per academic year, which are going to be an important criterion for the professionals, both academic and industrial researcher for the credibility and performance, the researchers are committing a unethical practice of Salami slicing.²⁵

➤ *Conflict of Interest:*

It is known as circumstances that raise the possibility that professional judgements or actions involving a primary interest would be influenced unfairly by a secondary interest.²⁶

The arising prejudice may be conscious or unconscious, and the secondary interest may be financial or non-financial. Conflicts of interest undermine public, patient, and professional trust in research as well as the research enterprise. To achieve the goals of the research, efficient methods for identifying and handling conflicts are necessary.²⁷

➤ *Peer-review issues (Editor/reviewer bias and Confidentiality of manuscript)*

Some of the ethical concerns observed in this review from the point of view of reviewer and editors.

- Confidentiality of the manuscript- the details about the manuscript such as information about the authors, affiliations should be confidential in the review process of manuscript. This will help in preventing the bias in the review process.
- Editors and reviewer bias: There is a possibility of biases in the publication process, if the editor and reviewer closer/associate to the authors who submitted the manuscript to the particular journal. To avoid these issues, it is mandatory for the editors and reviewers maintain the confidentiality in the publication process.^{15, 18}

➤ *Uniform Instructions to the authors (Lack of standards in publication process)*

The present review identified one of the major concern about the publication process is lack of standards.i.e. No

uniform instructions to authors (Every Journal is having their own instructions/guidelines to the authors). Public concern about scientific integrity and misconduct is not adequately addressed by journal in the instructions to authors. So the journals should follow uniform ethical standards in the publication process.¹¹

➤ *Lack of informed consent and ethical approval reporting:*

It is mandatory that researcher should obtain Ethical Clearance before going to start any research involving the humans or animal as the study participants. Depends on the nature of the study the researcher should obtain the ethical clearance from the various Institution or scientific bodies such as IEC, IRB etc.²⁸

From the current review it was evidenced that, most of the studies are not reporting the information on ethical clearance. The publishers should insist the researcher on providing of details of Ethical Clearance before proceeding further publication process.¹³

VII. CONCLUSION

Research and publication has become one of the vital elements in the academic (including clinical) and Industrial filed. The integrity and adherence to the ethical principles in the area of the research and publication is very important for the research fraternity as it decides the quality and credibility of the research and researchers.

The investigator's and editors are responsibility to adhere to the ethical components in the publications process which ultimately helps in avoiding the practices involved in the scientific misconduct. So, this review strongly recommending the emerging researchers that, having the knowledge on these ethical issues helps you to play a more active part in establishing the highest ethical standards in biomedical/research publications.

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