Research Ethics: The Modern Era Violations

Dr. Dheeraj D. Kalra.
Post Graduate Student *,
Mobile: + 91 9620482115
Email ID: drdhrj@gmail.com

Dr. Prashant G.M.
Reader *,

Dr. Sakeenabi B.
Reader *,

Dr. Sushanth V. H.
Assistant Professor *,

Dr. Imranulla.
Assistant Professor *,

* Dept of Public Health Dentistry,
College of Dental Sciences, Davangere- 577004.

"Publish or perish" is a phrase coined to describe the pressure in academia to rapidly and continuously publish academic work to sustain or further one's career[1] and impacts almost every aspect of the research and publishing process.[2] It has been cited as a cause of poor work being submitted to academic journals.[1]

The Dental Council of India (DCI) has put up the eligibility criteria to be a Postgraduate teacher, which clearly says that publications carry points which will be evaluated for recognizing a faculty as a PG teacher. A recognized P.G. Teacher would be re-evaluated after every three years and there should be at least 10 points addition in their score every 3 years.[3]

Journal Fever: in recent years there has been a pressure to publish in "brand-name" journals.[4]

Many institutions evaluate candidates for recruitment or promotion using "pseudo-quantitative" systems like the ISI impact factor - a metric that assesses journals by the number of citations in the scientific literature each receives. Eugene Garfield, the founder of the Journal Impact Factor (JIF), had originally designed it as a means to help choose journals.[5]

JIF has various in-built problems associated:

• Only citations within a two-year time frame are considered.

• The nature of the citation is ignored.

• Only journals indexed in the source database are ranked.

• The JIF varies depending on the article types within a journal.

• The JIF is discipline dependent.

• The data used for JIF calculations are not publicly available.

• The JIF can be manipulated.

JIF is not a direct measure of quality and must be used with considerable care.

JIF should not be used:[5, 6, 7, 8]

1. To evaluate the impact of individual articles and researchers

2. To compare journals from different disciplines

3. By funding agencies, as a basis for grant allocation

4. By authors, as a singular criterion of consideration for journal selection

5. By hiring and promotion committees, as a basis for predicting a researcher's standing

6. By authors, to compare themselves against their peers.

A LOOK AT HISTORY

The birth of modern research ethics began with 23 Nazi German Doctors put on trial, who were accused of conducting aborrent and torturous "experiments" with concentration camp inmates. To prosecute the accused Nazi doctors for the atrocities they committed, a list of ethical guidelines for the conduct of research – the Nuremberg Code – were developed. The Nuremberg Guidelines paved the way for the next major initiative designed to promote responsible research with human subjects, the Helnski Declaration. The Helnski Declaration was developed by the World Medical Association and has been revised and updated periodically since 1964. Following the Helnski Declaration, the next set of research ethics guidelines came out in the Belmont Report of 1979 from the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.

Research is a public trust that must be ethically conducted, trustworthy, and socially responsible if the results are to be valuable.[9]

PRINCIPLE-BASED ETHICS:

Principle-based ethics typically refers to an influential approach comprised of four prima facie principles: autonomy, beneficence, non-maleficence, and justice. However, this form of ethics fails both fundamental objectives of ethics, namely to guide our actions and to give us reasons for why we ought to act in a particular situation in a certain way.

DEONTOLOGICAL ETHICS:

Ethical thinking has dominated medical ethics for most of the history of medical practice, comprising of absolute (categorical) imperatives resulted into maxims such as 'don't kill', 'don't lie' etc. The practical problems involve conflict among the duties at times.

UTILITARIAN ETHICS:

The basic utilitarian premise is that our actions should maximise utility. This mode of ethical reasoning is most suited for problem solving in research ethics.[10]

The modern day ethical violations

1. Authorship:

Authorship is the process of deciding whose names belong on a research paper.[9] Each author should have participated sufficiently in the work to take responsibility for appropriate portions of the content. One or more authors should take responsibility for the integrity of the work as while, from inception to published article.[11] The other team members and colleagues, not meeting upto the requirements of the authors but have some contributions, should instead receive acknowledgement.

Authorship problems include misrepresentation of authors or leaving authors which have nonetheless contributed to a piece of research or a manuscript, or listing an author who is not aware of that, for example to "upgrade" the appearance of the manuscript.

Student-staff-supervisor co-publication:

Student should normally be the first author for his/her dissertation or thesis. This condition may be waived if the student plays little or no role in the preparation of the work for publication. In such an instance, the student will be the second author.[11]

In Europe more than two-thirds of the young scientists are not given full credit for their research achievements and a survey in the USA revealed that senior scientists are frequently listed as authors of papers even though they have had little or no participation in the work.[12]

2. Plagiarism:

Plagiarism is the act of passing off somebody else's ideas, thoughts, pictures, theories, words, or stories as your own. Plagiarism is both an illegal act and punishable, considered to be on the same level as stealing from the author that which he or she originally created.[9] Plagiarism among students is a problem, especially among students for whom English is not their first language. Excuses given when caught… forget to put references, it was an accident, there was no intent to plagiarise, unaware of Plagiarism, etc.[12]

Redundant publications constitute a special type of plagiarism. "Redundant or duplicate publication is publication of a paper that overlaps substantially with one already published."

Simultaneous submission of duplicate articles by the same authors to different journals also violates journal policies.

Self plagiarism: The verbatim copying or reuse of one's own research.

Salami publication: In salami publication / slicing, data gathered by one research project is separately reported (wholly or in part) in multiple end publications. Salami slicing is generally considered questionable when not explicitly labeled, as it may lead to the same data being counted multiple times as apparently independent results in aggregate studies also problems of statistical significance can arise. They break up ideas into small pieces, forcing people to look up many cross-references.[13]

How do Journals Detect and Handle Problem Papers:

• Information received from reviewers or other editors,

• Literature search for related papers by the author

• Withdrawal of a paper from publication (Retraction)

• Banning authors from publication in the journal for 3-5 years and informing the co-authors and editors of related journals of our action.

• Black-listing the author

• Pressurizing the author to resign from the academic post.

• For less serious cases, placing the author on a "watch list" for careful examination of their submissions prior to requesting reviews.

In recent times, popular programs to check for plagiarism by various journals across the globe are iParadigm's "Ithenticate" (http://ithenticate.com/) and Turn It In's originality checking (http://turnitin.com/), which recently partnered with CrossRef (http://www.crossref.org/) to create CrossCheck, a

new service for verifying the originality of scholarly content.

3. Peer review: [9]

The two most important ethical concepts in the peer review process are confidentiality and protection of intellectual property. However the process of peer-review may take a form of conflict of interest, financial, conflicts due to personal relationships with the author and / or political forms. Reviewers should not know the author (or authors) they are reviewing, and the author (or authors) should not be told the names of the reviewers, maintaining a double- blinded review process.

Many journals ask for suggesting a reviewer during the article submission process, which may lead to these problems discussed above.

4. Conflicts of interest: [9]

Conflicts of interest arise when a person's (or an organization's) obligations to a particular research project conflict with their personal interests or obligations. If conflicts of interest do exist, then the objectivity of the researcher and the integrity of the research results can be questioned by any person throughout the research review process – from the IRB review through the peer review phase.

Clinical obligations to patients should always be considered above and beyond the obligations of research.

5. Research misconduct: [9,10,12]

Research misconduct is the process of identifying and reporting unethical or unsound research. It means Fabrication, Falsification or data manipulation in proposing, performing, or reviewing research, or in reporting research results.

Fabrication is making up data or results and recording or reporting them.

Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

Oftentimes, researchers downplay the importance of data management because the details can be time consuming and they assume they can "figure it out" as they go along. A clear, responsible, ethically sound, and carefully outlined plan for data management is required at the beginning of research to prevent all manners of conflicts and inappropriate research methods.

Researchers who manipulate their data in ways that deceive others violate both the basic values and widely accepted professional standards of science -

Failure to fulfill all three obligations. They mislead their colleagues and potentially impede progress in their field or research and undermine their own authority and trustworthiness as researchers.

Harms done by fraud: [10]

In the long run, Public trust is likely to be shattered. It affects each real scientist and researcher who puts a lot of efforts, time and funds in coming up with a real research, but shorter path to success... a fraudster occupies a working place of a honest scientist. Fraud also obstructs progress of real science.

Detection of fraud: [9]

The detection of most fraud cases reported in the literature was done by colleagues, and such people are usually referred to as "whistleblowers". Some institutions have an often anonymous committee in place for such activities. A committee investigating scientific fraud should protect both the whistleblower and the accused scientist.

Plagiarism is easier to be detected with electronic publishing but falsifying and fabricating data will be impossible to eradicate. Although the internet speeds the flow of valuable information around the world, a negative side effect is the increased exposure of students and the public to misleading or biased science. Plagiarism search engines have been developed which check whether a paper has been copied from the internet.

What do I need to maintain?

- Face up the demands of peer review,
- Cite generously and meticulously,
- Reward originality and priority of discovery,
- Present your work impersonally,
- Get serious and take responsibility for your own project.

At the institute / university level:

- Setting up of IRBs.
- A peer review board should be headed by a third-party supervisor.
- Research ethics should be taught at the universities and institutions.
- Conflicts of interest be disclosed and investigated.
- Reduce the pressure of publish or perish.

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