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Research and publication ethics: pillars of integrity in the scientific medical journal

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Research has been the foundation upon which human development has always been built. For sustainable growth, this foundation needs to be based on trustworthy knowledge, which cannot be achieved without following ethical standards at the highest possible level. Research has been conducted in various forms at different levels across all fraternities. There is no small or big research, there is only reliable or unreliable research. Research at different levels yields different levels of evidence which often builds up enough material to define a course of action, leading to the formation of guidelines or protocols.

Several pieces of research in the past have often been considered unethical¹ and the learning from this has led to the formation of some ethical regulatory guidelines like CIOMS guidelines², the Nuremberg Code³, the Declaration of Helsinki⁴, etc. Based on these guidelines, there are regulatory bodies at the national level, like the Ethical Review Board (ERB) of the Nepal Health Research Council (NHRC) which is the apex body for the regulation of research works in Nepal. Institutional Review Committees (IRCs) are then formed at the local institutional level based on the guidelines from NHRC, to govern the ethical issues for research conduction at the local level. Most ethical issues are very clear-cut, there is no debate. But oftentimes, ethics is a gray zone, requiring one to apply conscience-based decisions to make a rational choice. Research Ethics covers a wide spectrum of issues; some important ones are being discussed below:

Protection of Research Participants

A researcher's first consideration before the conduction of research should be the protection and safety of the research participants, both humans and animals alike. Some environmental studies will require the researcher to consider the damage that can be caused by the research to the environment. For human participants, obtaining informed consent after providing detailed information about the research and the goal, possible benefits to the participants/society, harm, outcome, and how the possible risks have been minimized/mitigated, should be the topmost priority. This should also include how and what will be done to compensate the research participants or the family in case of any

adverse event related to the research, during or after the research, within a specified period. Next comes the financial burden to the participants, which can be in terms of extra visits, additional investigations for research purposes, and/or treatment of undesired adverse events during the study period. Remuneration of the research participants should be taken with a pinch of salt.

The proposal will then need to be critically evaluated by the ethical body within the institution or at a higher level, depending upon the type of research, the extent of research, and the involved parties. Some research will require administrative approval at the local or higher level, including those directly or indirectly involving animals and/or the environment. The scientific journal also looks into these aspects and analyzes if the ethical principles have been adequately followed before considering the manuscript for publication.

The majority of the researchers comply with the ethical guidelines when they are aware of it. As in most cases, awareness of the ethical issues before conducting research is of paramount importance. Good Clinical Practice (GCP) Training⁵ provides an online free self-directed learning and evaluation course about the ethical issues for scientific research, with details on the consent and the process of obtaining one. Following ethical guidelines while conducting research not only allows the researcher to prioritize the rights and safety of the participants but also instills trust and confidence in readers after publication.

Privacy and confidentiality

Scientific medical research at all levels mostly requires the collection of data from research participants, which are often sensitive and confidential, e.g., the health status of a patient, personal details, contact information, etc. The responsibility of ensuring the confidentiality of these pieces of information lies in the hands of the researcher. During publication, the scientific journal editorial

board will also need to ensure these conditions have been met before publication.

Integrity and Transparency

Research can be commenced on a broad topic for some important baseline data based on which one or more specific and in-depth research can sprout. Each research has a value of its own, adding a brick on the wall to create an important piece of evidence to either establish or refute a hypothesis. For reliable evidence, research integrity encompasses the rigorous adherence to accurate, unbiased, and transparent research design, methodology, analysis, and reporting. A faulty research design or an unsound method results in an unreliable analysis and interpretation, that can contaminate the healthy literature pool. Ethical bodies ensure that the researcher adheres to these principles by reviewing the proposal thoroughly and monitoring the research progress while the journal advocates transparent reporting, including full disclosure of conflict of interest, funding resources, potential bias, and limitations of the study. On the one hand, this transparency aids in preserving the integrity of the research work by preventing manipulation or fabrication/falsification of data; on the other hand, it also helps in the reproducibility and verification of research by others. The result is the accumulation of an authentic and reliable scientific knowledge base.

Plagiarism and Originality

This is an important domain falling into the jurisdiction of publication ethics. Originality is the cornerstone of scientific research and publication. Publication ethics demand zero tolerance toward plagiarism. Journal Editors must put an effort towards ensuring that the manuscripts are original and authentic. Plagiarism detection software can help the journal editors in recognizing the plagiarized manuscript. The addition of new knowledge, reinforcement of existing knowledge, and filling the knowledge gap in the literature pool mandates the dissemination of the research findings with the highest level of integrity. To uphold this integrity, plagiarism must be

discouraged and addressed at all possible levels.

Authorship

It has always been a point of debate as to who qualifies to be an author for a scientific medical journal. Cases of honorary authorship are prevalent, whereby someone is listed as an author without fulfilling the criteria. This trend is not only to decorate the biography but also to qualify for promotion or job application in many of the institutions. Determining authorship is an important component of publication ethics. Authorship should only be attributed to individuals who have made significant intellectual contributions to the study while those who have smaller contributions need to be acknowledged. Most Journals follow the International Committee of Medical Journal Editors (ICMJE) Guidelines for Authorship, ensuring transparency, accountability, and responsibility from all authors towards the manuscript, while no contributors are left unacknowledged.⁶

Conflict of Interest

Conflicts of interest, financial or otherwise, advertently or inadvertently, have the potential to undermine the credibility and reliability of published research. It is the responsibility of all the authors to declare the conflict of interest, if any so that the possible impact on the interpretation of results or the impartiality of the research can be transparently publicized. Journal editors play a pivotal role in scrutinizing these declarations. Handling these conflicts openly is crucial to maintain the integrity of scientific investigation and foster trust in the findings.

Conclusion

Humans have relied on research for advancement, solidifying their position at the top of the pyramid amongst all living beings. Research can be broad or specific; it adds some new knowledge to fill up the existing gap in the current literature pool. It is imperative to think that findings based on an unsound foundation are likely to yield biased or unreliable results, hence rendering the

outcome unauthentic. Maintaining the highest standards of research and publication ethics is of paramount importance for scientific medical journals. By protecting research participants, upholding integrity and transparency, discouraging plagiarism, defining authorship criteria, and addressing conflicts of interest, these journals will play a pivotal role in safeguarding the progress of medical science. Researchers can explore training opportunities for enhancing their knowledge on research ethics, hence minimizing inadvertent breach of ethical principles. Encouraging ethical research practices ensures the dissemination of reliable knowledge, thereby advancing medical practices and benefiting society as a whole. As readers, researchers, and journal editors, we all have the collective responsibility to embrace and prioritize these ethical principles to pave the way for a trustworthy scientific medical landscape.

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