

Scientific Integrity-Overcoming Challenges in Medical Research and Publication

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Research is the foundation of understanding since it is an essential process in the advancement of science. In the rapidly developing domain of medicine and technology, research and its clinical applicability has increased both the longevity and standards of living. Human diseases are quite complex and their current scenario is constantly changing as new conditions with its frequent detection and publishing in medical journals becomes quite intricate. One major issue is that little is known about the mechanism or the biology of the disorders due to the relatively small research pool, which frequently leads to insufficient clinical training. As a result, the clinical outcome can be incomplete or distorted. When these disorders are chronic in character, the issue is exacerbated and long-term follow-up is crucial. Due of this, published information on long-term treatment results is frequently mischaracterized and only partly obtainable. The World Medical Association (WMA) released the Declaration of Helsinki in 1964, which highlighted a tripartite guideline for good clinical practice¹.

Staying positive is typically the first step in attaining one's achievement. Most researchers have experienced and overcame challenges in conducting the research which includes a shortage of ambition, a lack of self-assurance, poor schedule planning, a lack of direction or focus, little assistance, a tendency to stay in one's cozy area, anxiety or taking chances while conducting the research, and a deficiency of appropriate expertise.

Apart from this, there are many concerns with ethics in research which include²:

- Study Design and Ethics Approval

Studies involving persons, medical data, and authenticated human tissues must have approval from the Institutional Review Board or Ethics Committee of the relevant organisations.

- Data Analysis

All sources and techniques used to collect and analyse the data should be properly disclosed in order to ensure effective data analysis. Failure to do so could cause readers to interpret the results incorrectly without taking the likelihood that the study was underpowered.

- Authorship

It is important to make an early decision regarding who will be acknowledged as authors, contributors, and other roles throughout study planning.

- Conflicts of Interest

When researchers' interests are not adequately disclosed, it can affect what should be published. Personal, professional, political, academic, and financial interests are a few examples of these conflicts.

- Redundant Publication and Plagiarism

Superfluous publication happens when the same hypothesis, data, discussion points, or conclusions are used in two or more works without a complete reference. Contrarily, plagiarism includes the uncredited use of previously published or unpublished ideas from other people.

As a result, it's critical to cite all information sources.

The onus of ensuring that research is carried out ethically and responsibly from conception to publication rests with the researcher. The research team should have open discussions among themselves about any potential ethical concerns about the research and publication process. When in doubt, it is advisable to seek the professional advice of the relevant Institutional Review Board (IRB).

Prevention is always better than cure, and hence, we need to take steps to create awareness as scientific research and the main channel for disseminating evidence-based

knowledge to medical and healthcare professionals is publication. The dissemination of data is essential for raising awareness of novel treatments or lesser-known diseases. Strong data from academic papers may guide and motivate changes in clinical practise. Scientific publications and critical research add to the body of knowledge, which is crucial for fostering additional debate and investigation in the area³.

Research and publication thus form a component of the “ecology” for clinical evidence, which links research and practice.

References

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