Biomedical and Biopharmaceutical Research
Abbreviation: Biomed. Biopharm. Res.
Volume: 22: Issue: 01 |Year: 2025
Page Number: 589-593

ETHICAL CONSIDERATIONS IN PATHOLOGY RESEARCH

Dr. O. Sirisha[1], Dr. N. Haritha[2]
[1]Associate Professor, Dept of Pathology, Mahavir Institute of Medical Sciences, Vikarabad, Telangana
[2]Assistant Professor, Mahavir Institute of Medical Sciences, Vikarabad, Telangana

Corresponding Author

Dr. O. Sirisha
Associate Professor, Dept of Pathology, Mahavir Institute of Medical Sciences, Vikarabad, Telangana

Article Received:15-01-2025

Article Accepted:23-04-2025

Abstract

Background: Ethical compliance in research is essential to uphold scientific integrity and protect participants. In pathology, where research often involves human tissues and data, ethical practices are especially critical. This study aimed to assess the awareness, practices, and challenges related to ethical considerations among individuals involved in pathology research.

Methods: A cross-sectional study was conducted over one year among 100 participants involved in pathology research at a tertiary care institution. A structured questionnaire was used to evaluate awareness of ethical guidelines, informed consent practices, use of plagiarism checks, authorship clarity, and challenges faced during ethical clearance.

Results: The study found that 85% of participants were aware of ethical guidelines, but only 62% had read them in detail. Informed consent was consistently obtained by 78%, while 70% obtained prior ethical clearance from Institutional Ethics Committees. Only 55% discussed authorship roles before manuscript writing, and 60% performed plagiarism checks. Major challenges included delays in ethical approval (30%) and lack of formal training in research ethics (40%).

Conclusion: Despite moderate awareness, gaps persist in the application of ethical principles in pathology research. Strengthening ethical education, ensuring timely ethical reviews, and promoting institutional accountability are essential to enhance ethical standards and research quality in pathology.

Keywords: Pathology research, research ethics, informed consent, ethical clearance, plagiarism, authorship, Institutional Ethics Committee.

INTRODUCTION

Ethical considerations form the backbone of all scientific research, particularly in the field of pathology, where human and animal tissues are commonly studied. Ethical misconduct in research can lead to compromised data integrity, loss of public trust, and potential harm to participants. Therefore, adherence to ethical principles is essential to maintain the credibility of scientific findings and safeguard the rights and well-being of participants involved in pathology research [1].

In India, the Indian Council of Medical Research (ICMR) provides comprehensive guidelines for biomedical and health research involving human participants, including the use of biological materials, informed consent, and confidentiality [2]. Institutional Ethics Committees (IECs) play a crucial role in ensuring that research proposals are ethically sound before approval and implementation.

However, multiple studies have identified gaps in the understanding and application of ethical principles among researchers, especially postgraduate students and laboratory staff [3]. These gaps are often attributed to a lack of formal training, limited access to ethical resources, and time constraints [4]. In addition, challenges such as delays in obtaining ethical clearance, unclear authorship criteria, and insufficient emphasis on plagiarism checks further hinder compliance with ethical standards [5].

Despite the increasing emphasis on research ethics, few studies have assessed the awareness and practical application of ethical guidelines among pathology researchers in India. This study aims to bridge this gap by evaluating the ethical awareness, practices, challenges, and suggestions among individuals involved in pathology research over a one-year period.

MATERIAL AND METHODS

Study Design and Setting

This study was a descriptive, cross-sectional observational study conducted over a period of one year, from [Feb, 2024] to [Feb, 2025, in the Department of Pathology at [Mahavir Institute of Medical Sciences, Vikarabad], a tertiary care teaching hospital in [Telangana].

Study Population

A total of 100 participants were enrolled in the study. The study population included pathology researchers, postgraduate students, and laboratory professionals involved in research activities within the department. Participants were selected using purposive sampling based on their active involvement in pathology research projects during the study period.

Inclusion Criteria

- Individuals actively involved in pathology research during the study period.
- Willingness to participate and provide informed consent.
- Age 18 years and above.

Exclusion Criteria

- Individuals not involved in any form of pathology-related research.
- Refusal to give informed consent.
- Incomplete or invalid responses.

Data Collection Tools and Techniques

A pre-validated semi-structured questionnaire was developed to assess awareness, understanding, and adherence to ethical considerations in pathology research. The questionnaire consisted of both open-ended and closed-ended questions, covering aspects such as:

- Informed consent practices,
- Ethical clearance procedures,
- Confidentiality and data protection,
- Use of human and animal specimens,
- Plagiarism and authorship ethics.

The questionnaire was distributed to participants after obtaining written informed consent. Responses were collected anonymously to maintain confidentiality and avoid bias.

Ethical Approval

Prior to the initiation of the study, ethical clearance was obtained from the Institutional Ethics Committee (IEC) of [Mahavir Institute of Medical Sciences, Vikarabad] Participation was voluntary, and confidentiality of all participants was maintained throughout the study.

Data Analysis

Data collected were entered in Microsoft Excel and analyzed using SPSS software version 19. Descriptive statistics such as frequencies and percentages were used to summarize categorical variables. Responses were further analyzed to identify common trends, challenges, and gaps in the ethical practices followed in pathology research.

RESULTS AND OBSERVATIONS

Demographic Profile of Participants

Out of 100 participants, 56 were male and 44 were female. Most participants were postgraduate students, followed by faculty members and research assistants.

Table 1: Demographic Distribution of Participants (n = 100)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	56	56%
	Female	44	44%
Designation	Postgraduate Students	60	60%
	Faculty Members	25	25%
	Research Assistants	15	15%
Age Group (in years)	21–30	65	65%
	31–40	25	25%
	>40	10	10%

Table 2: Awareness and Understanding of Ethical Guidelines

Statement	Yes (n)	Yes (%)	No (n)	No (%)
Aware of ICMR/Institutional Ethical Guidelines	85	85%	15	15%
Have read the ethical guidelines in detail	62	62%	38	38%
Attended training/workshop on research ethics	48	48%	52	52%

Table 3: Ethical Practices Followed

Practice	Always Followed (n)	Sometimes (n)	Never (n)
Informed consent was obtained from study participants	78	20	2
Ethical clearance was obtained before starting research	70	25	5
Confidentiality of data is maintained	85	12	3
Authorship rules are discussed before writing a manuscript	55	30	15
Plagiarism check conducted before submission	60	28	12

Table 4: Common Challenges Reported

Challenge	Frequency (n)	Percentage (%)
Lack of formal training in research ethics	55	55%
Delay in obtaining IEC clearance	35	35%
Ambiguity in authorship criteria	28	28%
Lack of awareness about data protection laws	22	22%

Table 5: Suggestions for Enhancing Ethical Practices

Suggestion	Frequency (n)	Percentage (%)
Regular workshops/seminars on research ethics	70	70%
Clear authorship policy guidelines	40	40%
Faster IEC review process	38	38%
Mandatory plagiarism check before submission	50	50%

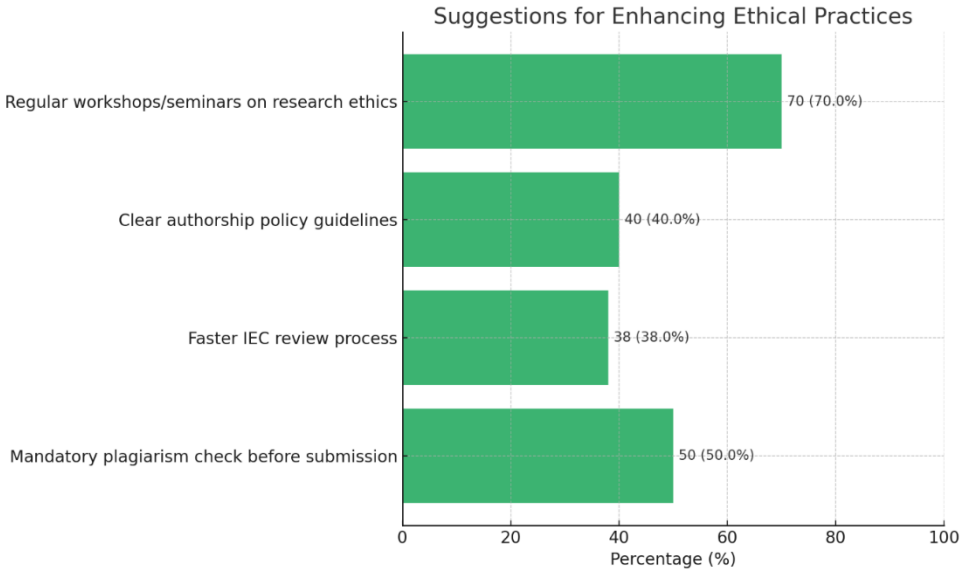

Figure 1 Suggestions for Enhancing Ethical Practices

DISCUSSION

This study assessed the level of awareness, ethical practices, and challenges encountered by individuals involved in pathology research in a tertiary care institution. The findings revealed that although a majority (85%) of participants were aware of institutional or ICMR guidelines on research ethics, only 62% had read these guidelines in detail, and less than half had attended formal training programs. These results highlight a significant gap between awareness and thorough

understanding, aligning with prior studies that also reported inadequate familiarity with ethical protocols among researchers [6,7].

Informed consent is one of the foundational principles of biomedical ethics [1]. In our study, 78% of participants consistently obtained informed consent, but 22% reported irregularities, reflecting a need for stricter reinforcement of ethical practices. Similar patterns have been observed in earlier research where informed consent was either overlooked or poorly documented, particularly in laboratory-based studies involving tissue samples [8].

Ethical clearance from the Institutional Ethics Committee (IEC) was routinely obtained by 70% of respondents. However, 30% either delayed or skipped IEC approval, often citing institutional delays as a reason. This challenge has been identified as a common barrier in Indian research settings, and faster, more efficient IEC review processes have been recommended [9].

Authorship conflicts and lack of consensus on contribution are other important ethical concerns. In our study, only 55% of respondents reported that authorship roles were discussed before manuscript preparation. This is consistent with global trends, where disputes over authorship continue to be a leading cause of ethical complaints in academic publishing [10].

Another significant concern is plagiarism. While 60% of researchers performed plagiarism checks before submission, 40% either skipped the process or were unaware of its necessity. With increased pressure to publish, instances of data fabrication and plagiarism have been on the rise in medical literature [11].

Training in research ethics is key to improving compliance. In our study, 70% of participants suggested regular workshops and seminars, which reinforces the findings of other authors who advocate for ethics education to be embedded in medical and postgraduate curricula [12].

Taken together, these findings underscore the need for institutional reforms that promote a research culture based on integrity, accountability, and continuous ethical education. Periodic audits, mandatory ethics modules, improved access to plagiarism tools, and streamlined IEC operations could enhance adherence to ethical standards in pathology research.

CONCLUSION

This study highlights that while awareness of ethical guidelines among pathology researchers is reasonably high, there remains a significant gap in the thorough understanding and consistent application of these principles. Key areas of concern include inadequate informed consent practices, delays in obtaining ethical clearance, lack of clarity in authorship roles, and insufficient use of plagiarism detection tools. These challenges underscore the urgent need for institutional commitment to ethical training and oversight.

To foster a more ethically sound research environment, regular workshops, integration of research ethics into academic curricula, streamlined ethical review processes, and mandatory use of plagiarism check tools should be prioritized. Strengthening the role of Institutional Ethics Committees and promoting a culture of transparency and accountability will enhance the quality, credibility, and societal impact of pathology research.

Ultimately, adherence to ethical principles is not merely a procedural requirement but a cornerstone of scientific integrity and respect for the dignity of research participants.

REFERENCES

1. Beauchamp TL, Childress JF. *Principles of Biomedical Ethics.* 7th ed. Oxford University Press; 2013.
2. Indian Council of Medical Research. *National Ethical Guidelines for Biomedical and Health Research Involving Human Participants.* ICMR; 2017.
3. Resnik DB. *What is ethics in research & why is it important?* National Institute of Environmental Health Sciences. 2020.
4. Alahmad G, Dierickx K. What do Islamic institutional fatwas say about medical and research confidentiality and breach of confidentiality? *Dev World Bioeth.* 2012;12(2):104–110.
5. Shamoo AE, Resnik DB. *Responsible Conduct of Research.* 3rd ed. Oxford University Press; 2015.
6. Kalichman MW. Responding to challenges in educating for the responsible conduct of research. *Acad Med.* 2007;82(9):870–875.
7. Vaswani V. Do medical researchers in India know about research ethics? *Indian J Med Ethics.* 2011;8(3):151–153.
8. Arda B, Sahin MT. Ethical issues in pathology research. *Turkish J Pathol.* 2009;25(1):53–56.
9. Satyanarayana K. Plagiarism: a scourge afflicting Indian science. *Indian J Med Res.* 2010;131:373–376.
10. Marušić A, Bošnjak L, Jerončić A. A systematic review of research on the meaning, ethics, and practices of authorship across scholarly disciplines. *PLoS One.* 2011;6(9):e23477.
11. Steneck NH. *ORI Introduction to the Responsible Conduct of Research.* U.S. Department of Health and Human Services; 2007.
12. Kombe F, et al. Enhancing research ethics capacity in sub-Saharan Africa: the IRENSA approach. *Dev World Bioeth.* 2014;14(2):99–104.