

Poster No. 03

Upholding Research Integrity with AI Integration in Today's Research Landscape–A Cross-sectional Global Study

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BACKGROUND

- The quality and credibility of research are defined by the integrity of researchers to abide by the applicable regulations and guidelines¹
- The research environment is constantly transformed by globalization, interdisciplinary research projects, and information technologies²
- The advent of artificial intelligence (AI) is revolutionizing various aspects of research including data processing, task automation, enhancing efficiency, and offering transformative solutions³
- In an age where ethical considerations form the backbone of credible research, understanding the current practices and challenges becomes paramount

AIMS AND OBJECTIVES

- To explore the extent to which researchers and institutions adhere to established ethical standards and guidelines in the conduct of their research
- To identify common challenges faced by researchers in upholding ethical standards and solicit suggestions for effective solutions and improvements
- To examine the ethical dimensions of data management and protecting intellectual property (IP) and the responsible data practices
- To assess the integration of AI within the research community of life science and healthcare sector

METHODS

- An anonymous cross-sectional survey was designed, comprising both multiple-choice and open-ended formats
- We disseminated the survey primarily through various channels including LinkedIn groups and the ISMPP network
- The survey was conducted from November 14, 2023 to January 8, 2024

CONCLUSIONS

- The findings from our study emphasize the significance of interventions such as conducting workshops on ethical AI usage and using tools and trained staff to detect and flag AI-generated content
- Reducing publisher burden with changes at institutional, sponsor and funder levels

Future Avenues

- To develop updated, comprehensive ethical guidelines for leveraging AI in research alongside organizing workshops to educate researchers on the responsible use of AI
- Integration of ethics training in academic curricula and institutional policies
- Promoting transparency in research methodologies, data collection, data analysis and conflict of interest
- Enhancing the guidelines on research integrity in universal manuals like ICMJE, GPP, COPE and others. This will help address their shortcomings and ensure that current ethical standards are transparent and up-to-date which is essential for maintaining high-quality research practices and publications

Limitations

- Even though our survey questions and answer options were formulated as explicitly as possible, we do not know if the participants from the healthcare and life sciences backgrounds, had a common understanding of the research issues, thereby leading to response bias

RESULTS

A total of 188 participants responded to the survey. Of these, 48% (n = 91) of participants were from the life sciences background, 44% (n = 83) from the medical and healthcare background, and 8% (n=14) included participants from other backgrounds.

1. Awareness and Adherence to Research Ethics and Compliance Guidelines

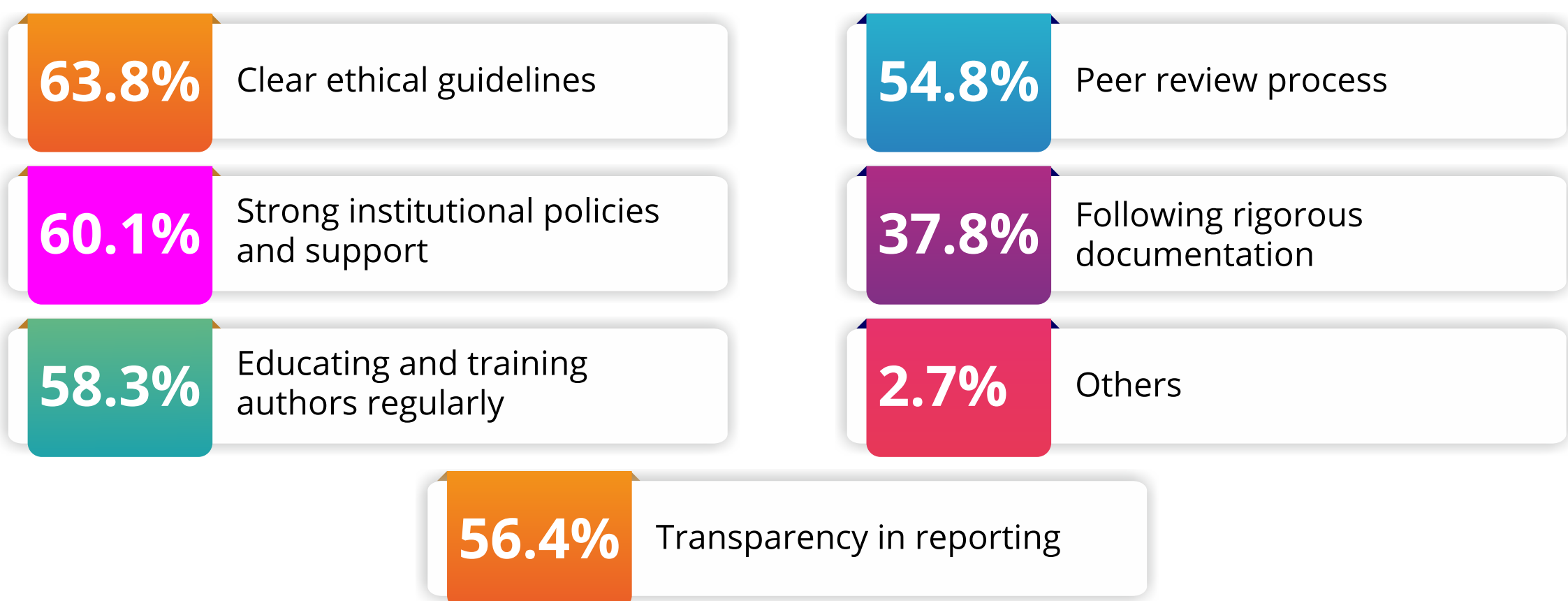
- 42% of the participants were aware of the research and publication ethics guidelines such as ICMJE, GPP, COPE, EQUATOR, PRISMA, etc., and followed them regularly
- 38.3% of the participants reported limited awareness about the different global guidelines (Figure 1)

Figure 1. Awareness of international research ethics guidelines



- There was a strong agreement in nearly three-fourths of the survey participants (71.27%) towards the development of a harmonized global guidelines for research ethics and compliance
- According to the survey participants, clear ethical guidelines was one of the important factors for fostering ethical compliance in research and publishing followed by strong institutional policies and support (Figure 2)

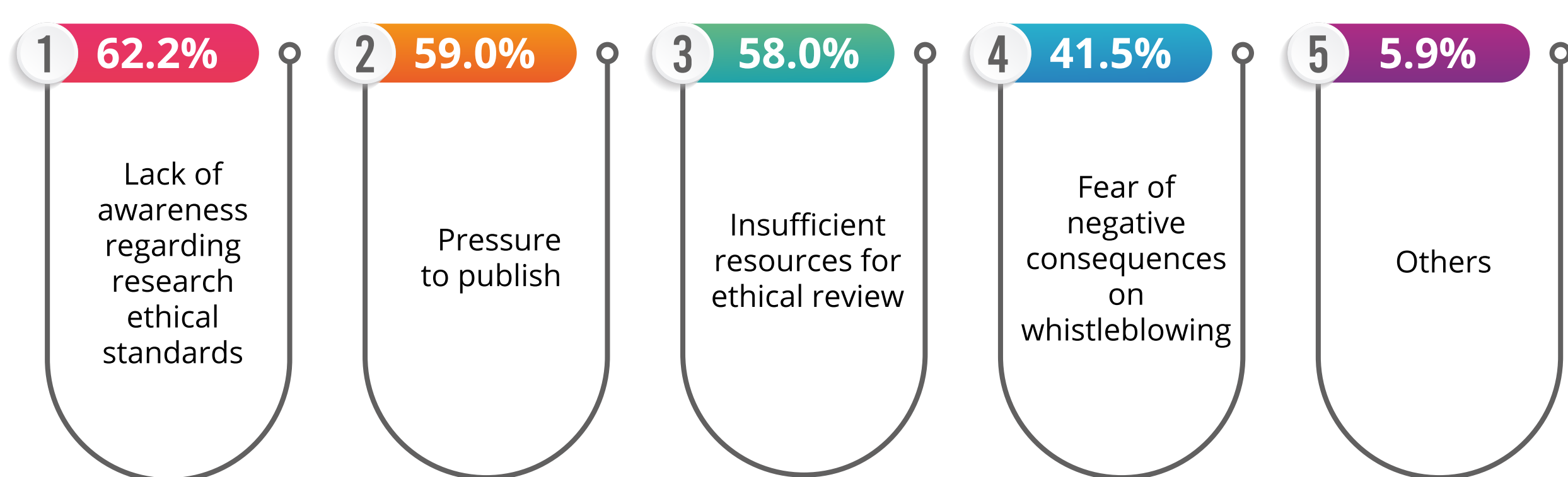
Figure 2. Factors fostering ethical compliance in research and publishing*



*Multi select multiple choice question

- Lack of awareness regarding the ethical standards (62%), pressure to publish (59%), and insufficient resources for ethical review (58%) were the major factors limiting ethical compliance reported in the survey (Figure 3)

Figure 3. Factors limiting ethical compliance in research and publishing*



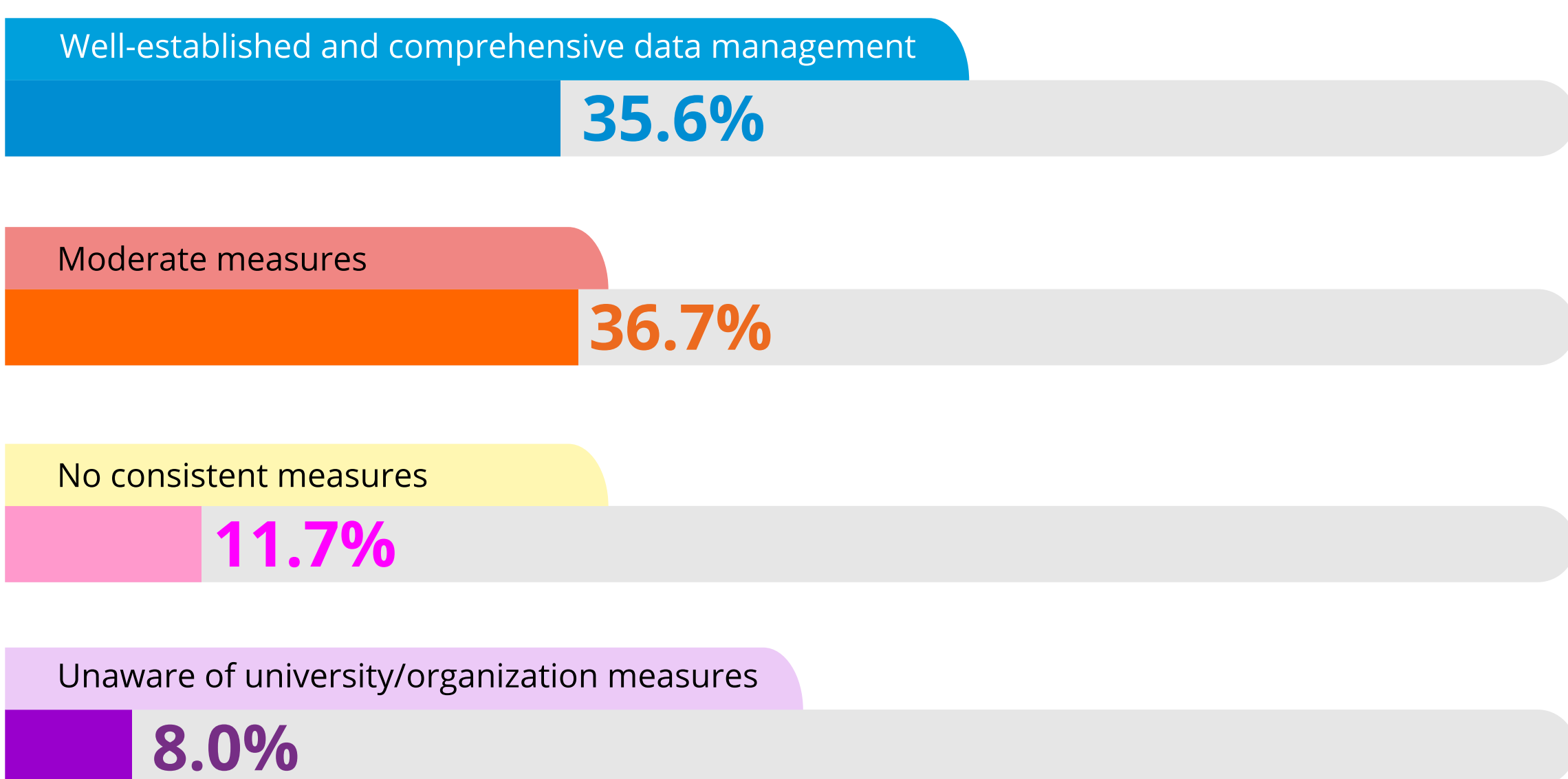
*Multi select multiple choice question

- Nearly 70% of the respondents had received training on research ethics compliance from their respective universities or organizations; however, about 38% of these respondents felt that the training was not comprehensive to strengthen their research ethics

2. Protecting IP Rights and Managing Research Data

- Nearly 36% of respondents reported having well-established and comprehensive data management policies in their organizations. About 12% of survey participants reported having no measures enforced across their universities/organizations (Figure 4)

Figure 4. Adoption of policies for data management integrity

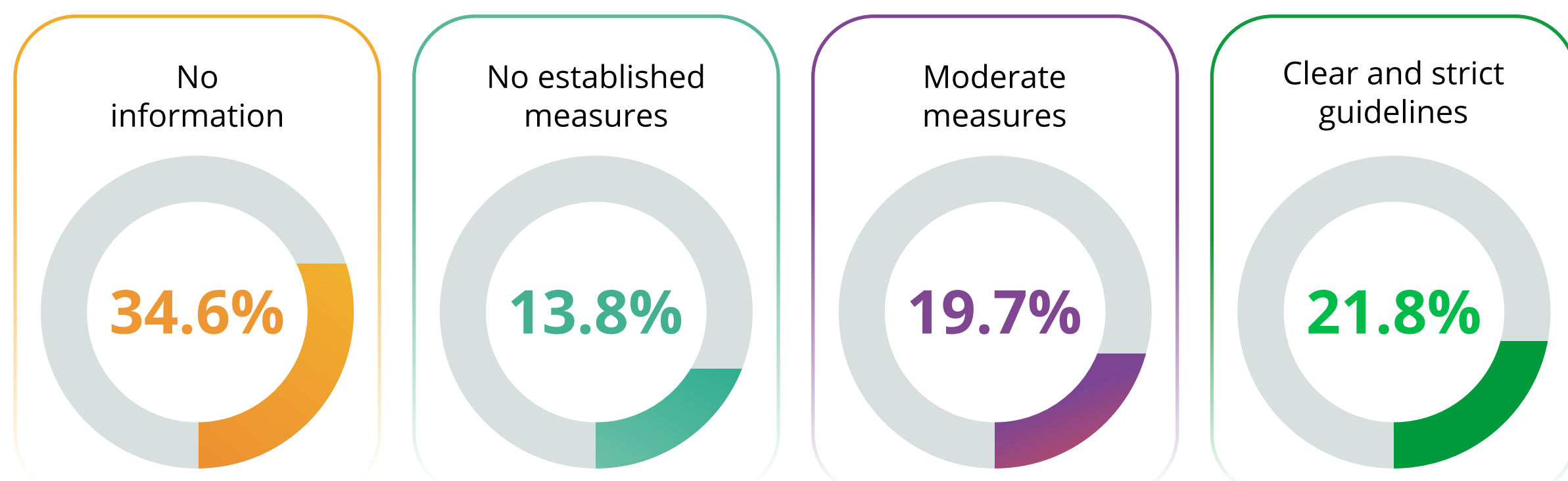


- 36% of the participants reported having strong and well-defined IP rights and research management within their field of research while 29.3% reported IP rights and research data management to be in a state of flux in their respective research field
- The participants opined delays in publication (41%) and impact on funding opportunities (36%) as the major challenges posed by copyright disputes
- Effective research data management was considered highly significant by 56% and moderately significant by 25%, while 2% reported that transparency relies on the publication process rather than on data management

3. Perceived Impact of AI Integration on Research Ethics

- 35% reported not having any information regarding guidelines for using AI in research and writing, while 22% reported having clear and strict university/organization guidelines for using AI in research (Figure 5)

Figure 5. AI integration in research



- More than half of the survey participants (59%) foresaw a benefit from a workshop on ethical AI use in research and research writing

References:

1. ICMR Policy on research integrity and publication ethics. Accessed on 10 March 2024 https://main.icmr.nic.in/sites/default/files/upload_documents/ICMR_policy_ripe.pdf.
2. A Kretser et al., Scientific Integrity Principles and Best Practices: Recommendations from a Scientific Integrity Consortium. Science and Engineering Ethics.2019; 25:327–355.
3. AS BaHammam. Balancing Innovation and Integrity: The Role of AI in Research and Scientific Writing. Nature and Science of Sleep.2023;15:1153–1156.

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