

Artificial intelligence in scientific publishing: technology advances, integrity must remain

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When we began writing these lines, we were certain that by the time they reached the reader, part of their content would already be outdated. No matter how quickly we process and publish a text, artificial intelligence (AI) is driving change at a dizzying pace. That is why, rather than focusing on the specific tools that currently astonish us, we prefer to concentrate on what is essential: the human being who creates and uses them.

Although AI has been present for years in different domains—from internet search engines to imaging-based diagnostic algorithms—its widespread emergence in public discussion took place on November 30, 2022, with the release of ChatGPT-3.¹ Since then, debates about its potential impacts have multiplied: from the automation of routine tasks to applications in education, the creative industries, and scientific research.

Biomedical publishing has not remained on the sidelines. In just over a year, most scientific journals have incorporated specific references to AI use in their editorial policies, whether in the design of research studies or in the preparation of manuscripts.² The common rule: authors must explicitly disclose if an AI tool has been used and describe its scope.

More than two years ago—almost prophetically—an editorial anticipated our journal's position on the use of artificial intelligence applications in scientific publishing: to accept them as valid tools, provided they are used responsibly, with authorship accountability remaining paramount.³

In essence, AI is regarded as a tool, and the scientific publishing system continues to rely on the author's honesty. We must acknowledge that, despite the safeguards established to ensure transparency—such as prior ethical approval, preregistration of studies, data sharing policies, conflict-of-interest disclosures, and reporting guidelines—scientific research still rests largely on the good faith of those participating in this ecosystem.

Let us not forget that asking a colleague to review a manuscript before submission has been, and continues to be, an accepted practice. Furthermore, for years many journals have recognized “professional medical writing support,” with evidence showing that, as long as such assistance is disclosed and its funding specified, it can improve the quality of published articles.⁴

In this light, the use of large language models (LLMs) to revise writing, correct grammar, refine style, or ensure coherence in another language

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does not pose a problem in itself. The same applies to applications that help us more efficiently manage the references supporting our work. What truly matters is the exercise of responsible authorship: verifying the origin and validity of the data, and remembering that plagiarism remains plagiarism and fraud remains fraud, regardless of the tool used. On the other hand, a more polished or assertive text can never substitute for the robustness of data. Clearly outside this discussion are practices that undermine scientific integrity: fabricating results, replacing analyses, or generating automatic responses to reviewers without author validation. These practices are as dishonest as plagiarism. We must also remember that, just as techniques exist to bypass plagiarism-detection software, there are also ways to conceal undeclared AI use. As noted earlier, our system ultimately relies on honesty.

Artificial intelligence does not replace expertise or dedication. Although the emergence of new technologies may generate concern—particularly in certain aspects⁵—just as once occurred with electronic calculators or word processors, these tools can help us focus on what truly matters: the quality of research.

If used judiciously, they may free us from technical limitations, allowing our attention to remain—as it always should—on the scientific and ethical value of what we publish. ■

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