ARTIFICIAL INTELLIGENCE IN WRITING AND SCIENTIFIC PUBLICATION

The recent popularization of the use of artificial intelligence (AI) in writing and scientific publishing has generated controversial feelings in the academic community, ranging from enthusiasm for the facilities offered to concerns arising from its inappropriate use.

Scientific writing is essential for carrying out research and requires careful attention to detail, clarity of expression and alignment with recommended standards. The importance of quality scientific writing should not be underestimated since it involves a slow and arduous process (1).

Large Language Models (LLMs) are AI tools that have been developed to understand, produce, and manage textual language with impressive skill (2). LLMs are trained with a robust amount of text that allows them to perform various tasks such as answering several questions, translating, and writing (3). These skills, brought to the context of scientific writing, have the potential to provide efficiency to the manuscript production process and speed the editorial flow in the submission processes to scientific journals.

Nevertheless, all types of "new technologies" requires the evaluation of benefits and risks involved in addition to the future impacts produced on scientific literature, an important theoretical foundation for the entire decision-making process related to the diagnosis and treatment of our patients.

The most obvious benefit of AI assistance in the production of scientific articles is the increase in the efficiency of the writing process as a whole. The greater speed of AI in carrying out "repetition" activities that consume considerable time, such as text formatting and searching for bibliographic references, allows researchers to save plenty of time and effort, which can then be used in the creative process, making more motivated authors and increasing the final quality of the manuscript (4).

Another important aspect to be highlighted is the possibility of AI-assisted writing to increase the scientific engagement of authors, especially those students who are non-native English speakers. The development of scientific writing in English is a skill that should be encouraged during the training of all students in the biomedical field. The literature already has studies that prove that the use of AI tools is capable of improving the overall performance of Chinese and Pakistani students in writing the English language, as well as other specific skills such as coherence, cohesion, range of vocabulary, variety and grammatical precision. (5,6).

When it comes to the risks involved, a concern that emerged along with the widespread use of AI in academic writing was the potential for plagiarism to grow. As it is an algorithm fed by textual data, there is a risk that parts of the text generated in an AI such as ChatGPT are direct copies of an original source without the true authorship of the written manuscript being attributed. There is also a record, by some researchers, of the creation of non-existent bibliographic sources (7).

Even the definition of plagiarism has been widely discussed after the use of ChatGPT became popular. Plagiarism is a practice strictly prohibited in academia and defined as the use of ideas, words and concepts without due citation to the author. This also includes paraphrasing quotes and concepts from an author with no appropriated reference (8). Some authors, mainly postgraduate students, are being rightly accused of plagiarism, for having used AI in their scientific writing. Currently, the tools for detecting both plagiarism and the use of ChatGPT lack precision in detecting both situations.

Faced with all the ethical and operational issues present in this complex context, several questions arise, among them, the following stands out: will we be able to resolve the ethical issues involved with the use of AI in academic writing and evaluate scientific research impartially from an author who openly declares the use of AI, without stigmatizing it?

The role of academic institutions, whether educational institutions or scientific journals, will be extremely relevant in this future with so many challenging characteristics.

It will be up to academia to regulate the use of AI in the scientific writing process, keeping the human author as the main protagonist and relegating AI to the role of an auxiliary tool. To this end, it is necessary to improve AI in terms of adequate attribution of authorship of texts, as well as improving plagiarism detection and AI use tools. They may also contribute to greater safety for authors, reviewers and scientific editors by establishing an accessible and well-defined code of ethical conduct, as well as greater rigor in punishing cases of plagiarism.

The use of AI in scientific writing is a technological advance with the potential to significantly improve the quality and accessibility of scientific literature worldwide. It is up to us, members of the academic community, to ensure that well-established ethical principles guide its use.

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