

## What artificial intelligence can and cannot do (yet) in the scientific publishing world?

Mariano E. Ibarra<sup>a</sup> 

The academic field –and within it, the field of publishing–, are engrossed in discussions about artificial intelligence (AI). Just exploring the topic in PubMed, we find a significant number of articles and comments on the effects that the use of artificial intelligence could have on scientific and educational activities. Artificial intelligence is not something new; as a concept, it has been known since the 1950s<sup>1</sup> and, in the past years, it has become an integral part of most social media and apps we use daily. So, what changed to make us all talk about AI now?

By the end of last year, ChatGPT was made public.<sup>2</sup> This tool allows queries to be made using a free, generative AI algorithm. The ability of such algorithms to understand and generate language took everyone by surprise. While the advances in the field of AI are well known, ChatGPT brought them to the table for anyone to explore. There is no need to master programming languages or to have specific knowledge about the tool; just asking questions in your language is enough to elicit answers on a myriad of topics. This new AI model has the ability to process information and generate responses never seen before. So what role could it play in the scientific publishing world?

The first thing we need to understand is that AI is already part of the publishing world. As with social media or the apps we use every day, AI is a structural part of digital publishing processes. It performs text processing functions to

identify plagiarism or translate texts into different languages. However, this type of use of AI as a tool for processing manuscripts is not what we are concerned about. What actually concerns us is the role AI may play in manuscript writing. Is it just a tool or something else? Can AI be considered an author?

The world of medical journal publishers is divided on this issue. The toughest stance was taken by *Science*, stating that AI cannot be considered an author and that AI-based tools should not be allowed to be used for manuscript writing.<sup>3</sup> The *Journal of the American Medical Association (JAMA)* has taken a different stance. They agree that AI cannot be considered an author, but have admitted its use to write texts, as long as it is clearly stated by the authors.<sup>4</sup>

The *International Committee of Medical Journal Editors (ICJME)* has taken a similar viewpoint and has emphasized that the responsibility for the content of any manuscript ultimately rests with the authors.<sup>5</sup>

It is difficult to take a definitive stand on a subject matter that is constantly evolving. Clearly, ignoring or trying to limit the inevitable only leads to authors hiding the truth. At this point in the evolution of AI, there are two factors that limit it to the world of tools. In the first place, AI is not capable of generating new concepts and ideas; it depends on the data used to train it. Second of all, it is programmed to process a large amount

doi: <http://dx.doi.org/10.5546/aap.2023-10104.eng>

**To cite:** Ibarra ME. What artificial intelligence can and cannot do (yet) in the scientific publishing world? *Arch Argent Pediatr* 2024;122(1):e202310104.

<sup>a</sup> Assistant Editor.

**Correspondence to** Mariano E. Ibarra: [marianoestebanibarra@gmail.com](mailto:marianoestebanibarra@gmail.com)



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of information and generate text responses to user questions, but it does not have the ability to generate the questions itself. For these reasons, AI still belongs to the world of tools and it is a human being who is actually responsible for its production.

The use of AI in the scientific publishing world be transparent and explicitly stated by the authors. In any case, the authors will be responsible for the content of the manuscript, regardless of how it was written. ■

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