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Navigating the advantages and challenges of integrating artificial intelligence in scientific production

Ricardo Guilherme **VIEBIG***

*Arquivos de Gastroenterologia – Editor Executivo, São Paulo, SP, Brasil.
ORCID: 0000-0002-6541-0401.

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There's no way to avoid it, there's no denying it. Artificial intelligence (AI) is increasingly present in our daily lives and has been assuming an important role in our communications, trade models, means of business and in the case of science it becomes an important tool in the research and production of scientific texts, which has caused the concern of journal editors.

Chat Generative Pre-Trained Transformer (ChatGPT) is a language model created by OpenAI that utilizes artificial neural networks to generate natural language responses to user questions and statements⁽¹⁾. When someone first encounters the tool and realizes that it can answer questions in an intelligible and generally correct manner, they may marvel at the incredible human ability to create machines capable of performing functions similar to those of the human brain. The coherence and fluency of the presented text are astounding. These abilities lead to a simple deduction: these tools will be

used to produce scientific texts, reducing the effort and time required for research.

Although it is possible, this attractive idea is surrounded by dangers, with possible mistakes that without the necessary knowledge can go unnoticed. First of all, AI is not able to make abstract thoughts and produce alternatives. Therefore, hypotheses must be generated by the researcher. The AI tool works well when the questions asked contain keywords that determine a deeper, more truth-coherent answer. So, the first step to benefiting from The IA is to ask the most complete and objective questions or request the task as explicitly as possible.

The current literature expresses a growing concern regarding the lack of originality in both written works and research. Furthermore, the use of generative AI tools such as ChatGPT poses a significant risk of producing false data, which could potentially harm the credibility of research outcomes. The underlying



logic employed by ChatGPT involves copying patterns from similar texts and simulations based on its training with language, rather than correlating the meanings and historical significance of words to produce authentic content. While these issues have always been present in academia, the use of AI has increased the speed of production and the perceived reliability of the results, thus necessitating caution in its use for research purposes⁽²⁻⁵⁾.

Therefore, the ethics and morals of scientific research and in the case of editors, surveillance and application of tools and policies that can identify the misuse of AI and consequent limitation of use in the production of articles submitted to journals are at stake once again.

In the case of the elaboration of academic texts undoubtedly AI will greatly assist the editing and revision of its texts, including translations. The ChatGPT tool can even cite the main sources that assisted in the production of the text. Statistical analyses can be generated, identifying patterns, and assisting the elaboration of new hypotheses⁽⁶⁾.

ChatGPT itself responds about its limitations

Question: What is the negative influence on the production of scientific texts by AI?

Answer: “Artificial intelligence (AI) can have some negative influences on the production of scientific texts. Some of these influences include:

- Lack of creativity: Although AI can generate text automatically, it often lacks creativity and originality, which can make generated texts monotonous and tedious.
- Lack of understanding: Although AI can generate text, it does not have the ability to understand the context and meaning behind words. This can lead to misinterpretation and the production of incorrect information.
- Misuse of data: AI may be programmed to search for information on the internet and other resources but is not always able to distinguish accurate information from inaccurate or mis-

leading information. This can lead to errors and distortions in the generated texts.

- Over-reliance: While AI can help automate parts of the scientific text production process, it should not completely replace the human ability to write and communicate ideas. Excessive use of AI can lead to dependence and reduced human ability to write effectively⁽⁷⁾.

In summary, although AI can be a useful tool to produce scientific texts, it is important to remember that it is not perfect and may have limitations and failures that can negatively affect the quality of the texts produced.

Some journals already move not to accept these AI tools as a co-author of a text, but in the practice it is very difficult to identify the non-human origin of a text. Others already accept the citations that parts of the research were generated with the help of the AI tool, but emphasize that they should have the objective of improving the writing and clarity of the text, but that the interpretation of the data is the responsibility of the author(s)⁽²⁾.

The **Archives of Gastroenterology** journal will soon implement a policy of rational use of AI tools, but it will not allow the inclusion of non-human entities as co-authors.

Are we facing a new era? No doubt, yes. Can the use of AI diminish human capacity to stimulate the brain for new ideas and ways of learning? Our brain currently a large information storer will outsource this function? Should our teaching and learning methods will be modified for this new reality? These and other questions will be answered in this decade yet.

In conclusion, the rise of AI is an inevitable reality that we must embrace. It is our responsibility to utilize this technology for the betterment of science and the advancement of the human species. Like a weapon that can be used for either defense or attack, AI possesses an inherent ambiguity of use. Thus, our adherence to moral and ethical principles becomes crucial in distinguishing and making the correct choices regarding its use.

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