



# Authors' response to the Letter to the Editor: Re-evaluating the role of AI in scientific writing: a critical analysis on ChatGPT

Sisith Ariyaratne<sup>1</sup> · Karthikeyan P. Iyengar<sup>2</sup> · Neha Nischal<sup>3</sup> · Naparla Chitti Babu<sup>4</sup> · Rajesh Botchu<sup>1</sup>

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Thank you for the comments and constructive criticism on our paper titled “A comparison of ChatGPT-generated articles with human-written articles” published in April 2023 [1]. We agree that despite the current limitations, Artificial Intelligence (AI) language models such as ChatGPT have the potential to positively contribute to scientific writing and academic research.

The field of Artificial Intelligence (AI) is a rapidly and exponentially evolving one, and it is reasonable to assume that future versions or similar iterations of language models such as ChatGPT may be capable of mitigating and overcoming the limitations we have highlighted in our study. We acknowledge that our sample sizes were relatively small, and we utilised an older version of ChatGPT; the latest version of ChatGPT (GPT-4) was only released in March 2023 [2] and as such was not available to us at the time the study was conducted. We also concede that newer versions of the tool which have been released since our study have to some degree mitigated some of the limitations we previously highlighted. Additionally, more comprehensive studies with larger samples sizes would certainly be required to understand the role and capabilities of AI language models in scientific writing.

We also concur that AI language models can prove to be a valuable tool to assist us in scientific research and publication, rather than serve as a replacement, and as stated in your letter,

collaborative publishing along with AI tools could drive academic writing in the future [3, 4], by improving efficiency of manuscript writing, facilitating literature reviews, and aiding with data collection and analysis [4]. The assistance of these tools can increase the output of research, allowing the authors to focus their energies on the research itself, study designs, and novel research topics. These can doubtlessly provide great benefit to the general population and the scientific community. Enforcing strict author guidelines to reflect contributions of AI, with disclosures in the manuscripts, and devising more robust plagiarism tools to detect AI-generated work however are required to minimise misappropriation of these tools.

While the focus of our article was to raise awareness and highlight some of the potential pitfalls of the role AI language models such as ChatGPT in academic research at the current point in time, we certainly appreciate the tremendous benefits it could confer in this sphere when its abilities are appropriately leveraged, particularly given its relatively rapid advancements. The future of AI is an exciting one, and we remain hopeful that AI language models could prove to be a useful adjunct in academic research.

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✉ Rajesh Botchu  
drbrajesh@yahoo.com

<sup>1</sup> Department of Musculoskeletal Radiology, The Royal Orthopedic Hospital, Bristol Road South, Northfield, Birmingham, UK

<sup>2</sup> Department of Orthopedics, Southport and Ormskirk Hospital, Southport, UK

<sup>3</sup> Department of Radiology, Holy Family Hospital, New Delhi, India

<sup>4</sup> Department of Radiology, Srinivas Institute of Medical Sciences & Research Centre, Mukka, Mangalore, India

## References

1. Ariyaratne S, Iyengar KarthikeyanP, Nischal N, Chitti Babu N, Botchu R. A comparison of ChatGPT-generated articles with human-written articles. *Skeletal Radiol* [Internet]. 2023 Apr 14 [cited 2023 Apr 18]. <https://link.springer.com/10.1007/s00256-023-04340-5>.
2. OpenAI. Introducing ChatGPT. <https://openai.com/blog/chatgpt/> (Accessed 27 Feb 2023).
3. Kitamura FC. ChatGPT is shaping the future of medical writing but still requires human judgment. *Radiology*. 2023;307(2): e230171.
4. Ariyaratne S, Iyengar KP, Botchu R. Will collaborative publishing with ChatGPT drive academic writing in the future? *Br J Surg*. 2023;27:znad198. <https://doi.org/10.1093/bjs/znad198>.

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