Human versus Artificial Intelligence (AI)-derived Scholarship: An emerging challenge

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Artificial Intelligence (AI) is becoming increasingly prevalent in the field of research. Recently, AI's advancements reached new heights with the release of a large language model called ChatGPT, developed by OpenAI[1]. Based on GPT (Generative Pre-trained Transformer) architecture, it generates human-like responses to text-based prompts in a quick and efficient manner.

With AI powered tools like ChatGPT, researchers can now generate ideas more quickly and conduct literature reviews that are more comprehensive and grammatically accurate. Furthermore, these chatbots are invaluable in serving as a writing tool, manage citations, editing and proofreading, and translating content into multiple languages.

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ChatGPT's role in assisting research article writing sparked debate among scholars of various disciplines since its launch in November last year. Some authors acknowledged the use of chatbot in their publication[2], whereas others have tried to include it as an author[3]. It is controversial, however, as the chatbot is not a conscious being and does not meet the traditional authorship criteria[4].

In addition, the quality of data produced by ChatGPT can be misleading and incorrect, raising concerns in academic contexts.[5] It also lacks the human-like voice and is too shallow for scientists, who need to have critical knowledge of latest findings and trends in addition to analyses and evaluations, to make conclusions.

Editorial decision-making has been altered and new AI recommendations are developed by the Committee on Publication Ethics (COPE).[6] Also COPE along with other organizations restricts the listing of AI tools as authors of research articles but recommends the authors to be transparent in disclosing the use of AI tools in the materials and methods section.[7]

While this has the potential to revolutionize the way we conduct research, it also presents a challenge to the traditional model of human-derived scholarship. On one hand, AI can analyse vast amounts of data and identify patterns that may not be immediately apparent to human researchers, whereas on the other, it has led to several significant advances in the field, including the development of predictive models for patient outcomes and the identification of new treatment options.

Nonetheless, there are also concerns that relying too heavily on AI-generated scholarship could lead to a loss of the human touch, with algorithms replacing the nuanced perspectives and critical thinking skills of human researchers. There is also the risk that AI-generated research could be biased or flawed, as algorithms are only as good as the data they are trained on.

As orthopaedic surgeons, we have a responsibility to ensure that the research we produce is of the highest quality and is conducted in an ethical and transparent manner. While AI has the potential to greatly enhance our ability to conduct research, it should never be seen as a replacement for human-derived scholarship. Rather, we should view AI as a tool that can be used to augment and enhance the work we do, providing us with insights and opportunities for discovery. We should also continue to emphasize the importance of critical thinking, collaboration, and ethical conduct in all aspects of our research.

To conclude, the challenge of human versus AI-derived scholarship is not an either/or proposition. Rather, it is about finding the right balance between the two, leveraging the strengths of both human and machine intelligence to produce the best possible outcomes for our patients and our field. As orthopaedic surgeons, we must embrace this challenge and work together to ensure that our

scholarship remains grounded in the highest standards of quality, integrity, and innovation.

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