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Light and Shadow of ChatGPT: A Real Tool for Advancing Scientific Research and Medical Practice?

Andrea Cocci (ID), Marta Pezzoli (ID), Andrea Minervini (ID)

Department of Urology, Azienda Ospedaliera Universitaria Careggi, University of Florence, Florence, Italy

INTRODUCTION

ChatGPT, a sizable language model developed by OpenAI, is a promising example of how artificial intelligence (AI) has quickly emerged as a useful tool for medical practice and scientific study [1-3]. ChatGPT's capacity to analyze big datasets, comprehend natural language, and generate text that resembles human speech has significant potential to advance medical practice and research [2,4]. There may be restrictions and disadvantages, though, like with any technology, which must be properly taken into account. The advantages and disadvantages of ChatGPT as a tool for improving medical research will be discussed in this editorial.

THE LIGHT

ChatGPT's capacity to analyze enormous amounts of data is one of its main features. Large datasets are becoming more prevalent in medical research, yet conventional data analysis methods can be labor-intensive and ineffective. However, with ChatGPT, researchers may enter data in normal language and instantly get systemic insights. The pace of medical research could

be greatly accelerated by this feature [3-5].

Additionally, ChatGPT could be the perfect instrument for clinical decision-making due to its natural language processing capabilities. Future iterations of ChatGPT or similar language-based models may allow doctors to quickly develop a list of prospective treatments or therapies based on the most recent scientific findings after receiving patient symptoms or diagnosis. By making more precise and data-driven recommendations, it could help doctors save time and enhance patient outcomes [2,3].

In the field of men's health, ChatGPT can help users find information on common issues such as benign prostatic hyperplasia, erectile dysfunction, and mental health. Sometimes men are hesitant to bring up sensitive topics with healthcare providers; ChatGPT can deliver information and increase awareness on these health problems, encouraging them to quickly contact a professional for proper identification and treatment.

The ability of ChatGPT to aid in the preparation of scientific publications is a significant additional benefit. It might be difficult and time-consuming to write research articles in a clear and exact manner. Writing high-quality manuscripts may take less time and effort

if ChatGPT can produce a text that is cohesive and human-like. The efficiency of the peer-review process may also be improved by this feature, hastening the publishing of significant research results [3-5]. However, active use of employing ChatGPT as a writing tool is currently heatedly debated. At the present time, this is still seen as an actively fraudulent practice and is warned against in submission to medical journals.

THE SHADOW

One major issue with ChatGPT is that its decision-making process is not transparent. Because of ChatGPT's extremely complicated algorithms and underlying models, it can be difficult to comprehend how it derives its results. Complex AI models are increasingly requiring explainability as much as they produce tangible results. As such, one should take the results of AI with a certain grain of salt when considering using its fruits. Understanding the foundation of the system's suggestions is crucial in medical contexts where precision and reliability are fundamental. Without this knowledge, there is a chance that medical professionals will make bad decisions based on inaccurate or biased information [2,3,6].

Additionally, ChatGPT's capacity to produce writing that appears human-like creates ethical issues. It is feasible to produce text that is identical to human-written text as the system becomes more advanced. If the system produces information that is unreliable, deceptive, or prejudiced, this could be an issue. This could result in inaccurate diagnoses or treatment plans in medical settings, which might endanger patients [2,3].

ChatGPT's reliance on pre-existing datasets is another drawback. The algorithm may be biased and inaccurate because it bases its suggestions on the data it has previously used to learn. Incomplete or biased data may result in recommendations that are incorrect or unreliable and may be hazardous in medical settings [2,3,6]. Furthermore, because biases in the data may be mirrored in the system's suggestions, there is a chance that ChatGPT could maintain current healthcare disparities [3].

CONCLUSIONS

The use of ChatGPT will help advance both medical practice and scientific research. It has the potential to significantly speed up medical research and enhance patient outcomes because of its capacity to handle enormous volumes of data, comprehend natural language, and generate text that resembles human speech. To make sure that ChatGPT's advantages are maximized and its possible negatives are reduced, its limitations and potential drawbacks must be carefully considered.

To guarantee the accuracy and dependability of ChatGPT's recommendations, transparency in the decision-making process is essential. In order to produce reliable and fair information, ethical issues must also be taken into account. Finally, it is crucial to understand the system's limits, especially when it comes to relying on pre-existing datasets.

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