



ChatGPT in medical education: How we can use in medical education: challenges and opportunities

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Introduction

In recent years, medical education has witnessed a rapid evolution in integrating technology to enhance learning and training. One such technology that holds great promise is ChatGPT (Generative Pre-trained Transformer), a form of conversational artificial intelligence (AI) (1). This editorial paper aims to explore the potential applications of ChatGPT in medical education and discuss how this technology can revolutionize how medical knowledge is imparted, accessed, and utilized.

Enhancing Accessibility

ChatGPT can improve medical education by providing an alternative and effective way of accessing information. According to a recent study, 76.7% of participants believed that ChatGPT could positively influence the future of healthcare systems (2). ChatGPT has the potential to offer immediate access to precise and current medical information on various topics. This encompasses multiple subjects, including diseases, treatments, and medical procedures. It benefits medical students and professionals who need prompt access to information or clarification on specific topics (3).

Simulated patient interactions

One of the most significant advantages of ChatGPT in medical education lies in its ability to simulate patient interactions. ChatGPT can generate realistic patient case scenarios through natural language processing and machine learning algorithms, enabling students to practice history-taking, diagnosis, and treatment planning in a safe and controlled environment. This interactive learning experience can significantly enhance clinical decision-making skills, boost students' confidence before they enter real-life clinical settings, and allow students to practice applying their knowledge to realistic situations (4).

Continuing medical education

ChatGPT can also revolutionize continuing medical education (CME) by providing healthcare professionals

with a personalized and adaptive learning experience. With its ability to analyze individual learning needs and preferences, ChatGPT can offer tailored educational content, recommend relevant research articles, and facilitate discussions with experts in specific medical fields. This technology can empower healthcare professionals to stay updated with their specialties' latest advancements and foster a culture of lifelong learning (5).

Ethical considerations

While the potential benefits of ChatGPT in medical education are immense, it is essential to address potential ethical concerns. These include possible infringement of copyright laws, medico-legal complications, and the potential for inaccuracies or prejudices in the generated content. ChatGPT-generated text can be identified by made-up quotes and irrelevant references, which can help to identify instances of plagiarism and other issues (6). Safeguarding patient privacy, ensuring accurate and evidence-based information, and monitoring the quality and reliability of ChatGPT platforms are critical considerations. Additionally, it is crucial to strike a balance between the use of ChatGPT and the importance of human interaction and mentorship in medical education (7).

Conclusion

Although ChatGPT has raised concerns about plagiarism and cheating, it can still be utilized in several ways to improve the quality of education. ChatGPT technology is promising in transforming medical education by enhancing accessibility, simulating patient interactions, and facilitating personalized learning experiences. However, its integration must be carried out thoughtfully, ensuring ethical considerations are met and maintaining the human touch in medical education. As we move forward, educators, policymakers, and technology developers must collaborate and harness the full potential of ChatGPT to revolutionize medical education and ultimately improve patient care. By leveraging this technology responsibly and ethically, we can shape a future

where medical education is more inclusive, engaging, and effective.

Competing Interests

None.

Ethical Approval

Not applicable.

References

1. Zhai X. ChatGPT User Experience: Implications for Education. 2022. Available from: <https://ssrn.com/abstract=4312418>.
2. Abouammoh N, Alhasan K, Raina R, Malki KA, Aljamaan F, Tamimi I, et al. Exploring perceptions and experiences of ChatGPT in medical education: a qualitative study among medical college faculty and students in Saudi Arabia. medRxiv [Preprint]. July 16, 2023. Available from: <https://www.medrxiv.org/content/10.1101/2023.07.13.23292624v1>.
3. Jeblick K, Schachtner B, Dextl J, Mittermeier A, Stüber AT, Topalis J, et al. ChatGPT makes medicine easy to swallow: an exploratory case study on simplified radiology reports. ArXiv [Preprint]. December 30, 2022. Available from: <https://arxiv.org/abs/2212.14882>.
4. Eysenbach G. The role of ChatGPT, generative language models, and artificial intelligence in medical education: a conversation with ChatGPT and a call for papers. JMIR Med Educ. 2023;9:e46885. doi: [10.2196/46885](https://doi.org/10.2196/46885).
5. Khan RA, Jawaid M, Khan AR, Sajjad M. ChatGPT-reshaping medical education and clinical management. Pak J Med Sci. 2023;39(2):605-7. doi: [10.12669/pjms.39.2.7653](https://doi.org/10.12669/pjms.39.2.7653).
6. Dave T, Athaluri SA, Singh S. ChatGPT in medicine: an overview of its applications, advantages, limitations, future prospects, and ethical considerations. Front Artif Intell. 2023;6:1169595. doi: [10.3389/frai.2023.1169595](https://doi.org/10.3389/frai.2023.1169595).
7. Ali K, Barhom N, Tamimi F, Duggal M. ChatGPT-a double-edged sword for healthcare education? Implications for assessments of dental students. Eur J Dent Educ. 2023. doi: [10.1111/eje.12937](https://doi.org/10.1111/eje.12937).

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