

Letter to the Editor

ChatGPT in Nursing Education: Enhancing Learning or Undermining Critical Thinking

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In the developing era of technology, Chat Generative Pre-Trained Transformer (ChatGPT) plays an important role in education. Integrating ChatGPT into nursing education has both advantages and drawbacks. Its strengths include acting as a personalized mentor, providing real-time feedback, introducing new vocabulary, initiating an active learning environment through virtual simulations, and supporting evaluation of learning frameworks, preferences, and outcomes. These features can enhance student engagement, self-directed learning, and overall educational effectiveness. Reduced creativity and critical thinking, misinformation, potential hallucinations or stochastic parroting, and over-reliance on AI-generated outputs are the identified drawbacks. Ethical and pedagogical challenges, such as data privacy, security, and discrimination, also arise with Artificial Intelligence (AI) integration into the nursing curriculum. This letter aims to address the potential benefits, challenges, and ethical concerns of integrating ChatGPT into nursing education and its impact on teaching and learning. Leveraging ChatGPT responsibly can enrich traditional nursing education, but humanistic qualities such as empathy, compassion, and emotional intelligence must remain central. It is recommended that the incorporation of ChatGPT into nursing education be guided by clear institutional policies, ensuring compliance with ethical and legal standards while supporting effective, safe, and human-centered learning.

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Introduction

In the evolving era of technology, nursing education aims to innovate technological development in the learning and teaching process (Gonzalez-Garcia et al., 2025). Traditional approaches and practices of nursing need to be revolutionized according to modern practices to meet current health needs in the technology era (Abujaber et al., 2023). ChatGPT is an AI-based chatbot that has the ability to provide personalized learning and teaching (Abujaber et al., 2023). The ability to provide personalized learning and individualized mentoring has strengthened the demands of integrating ChatGPT into nursing education.

ChatGPT is a tool that boosts efficiency, it expands uncertainties in safety, and humanistic qualities in future implications (Abdulai & Hung, 2023). Concerns were raised among the nursing leaders regarding the risk to humanity, as the AI-based chatbots, especially ChatGPT, lacks humanistic qualities and threats to safety regulations (Abdulai & Hung, 2023). Usually, nursing practices evolve with ethics, so it is essential to analyze the impact of ChatGPT on nursing values, principles, and disciplines in nursing (Abdulai & Hung, 2023).

Although ChatGPT has been developed to identify and simulate human cognition, a concern has arisen about whether ChatGPT in nursing practice will be able to simulate critical thinking, empathy, and personalized judgment (Abdulai & Hung, 2023; Alkhaqani, 2023). ChatGPT can be incorporated into nursing practice and aligns with students' level of skills ensuring fair and appropriate use. For example, ChatGPT can be utilized to simulate patient scenarios while providing safer and more

controlled settings (Abujaber et al., 2023).

However, proper guidance and instructions are necessary to enhance its advantages while minimizing dependency and potential misuse (Alkhaqani, 2023). An immediate need arises for discussion on the nursing assumptions regarding the application of technology in nursing practice (Abdulai & Hung, 2023). This letter aims to address the potential benefits, challenges, and ethical concerns of integrating ChatGPT into nursing education and its impact on teaching and learning.

ChatGPT as a cognitive amplifier: Enhancing nursing education

Nursing is a challenging profession that requires continuous adaptation and innovation to meet the demands of healthcare. Experts in the field believe that ChatGPT can revolutionize medical writing by formulating it in a timely and effective manner (Alkhaqani, 2023).

Studies have identified that ChatGPT influences students to engage in assignments and coursework as it provides guidance and prompt responses (Chukwuere, 2024; Kasneci et al., 2023). Communication has been identified as an important tool in education. Integration of ChatGPT into nursing education helps nursing educators in improving communication skills among nurses and nursing students by initiating thorough academic monitoring and providing empathetic responses while introducing new vocabulary and expressions (Shorey et al., 2024). The ability to speed up the writing, providing outline, detailing the content, and improve writing style promote greater engagement among students towards ChatGPT (Huang & Tan, 2023).

The application of ChatGPT is valuable in the field of nursing education as it provides timely feedback

and personalized resources (Abujaber et al., 2023; Ni et al., 2024). This allows students to have immediate access to resources in the demanding healthcare era. Personalized learning is a dynamic learning tool that fulfills the individual needs of the learners. ChatGPT has enhanced nursing student's personalized learning concepts through chatbot interactions that foster self-directed learning and collaborative small-group efforts (Abujaber et al., 2023; Polat et al., 2024; Shorey et al., 2024). Research experts suggest incorporating AI using ChatGPT in nursing training programs to provide individualized guidance and knowledge assistance (Chang et al., 2024). This chatbot aids learning and resolve errors by themselves. ChatGPT can help students learn in a way that fits their needs and interests. It can suggest lessons, give feedback, and provide study materials. By understanding each student, it offers more personalized learning (Chukwuere, 2024).

An active learning environment can be developed by incorporating virtual simulations, discussion forums, and in-class activities through the application of ChatGPT. Ethical reasoning and timely decisions making is crucial in both nursing education and practice (De Silva et al., 2024a; De Silva et al., 2024b). Nursing students can be enriched with clinical reasoning, critical thinking, and analytical skills in realistic patient scenarios through ChatGPT within a well-regulated and secure environment (Abujaber et al., 2023). This virtual mentoring allows students to apply theoretical knowledge in practice (Shorey et al., 2024).

The evaluation capacity of learning frameworks, learning preferences, impacts, and results of ChatGPT aids healthcare

educators in intensifying the productivity of the healthcare curriculum. It also provides effective feedback, planning for tutoring, assessment plans, and fairly structured and AI-driven assessment rubrics which enhance the quality of pedagogical frameworks (Chang et al. 2024; Polat et al. 2024; Weimann-Sandig, 2023). Reducing workload by helping healthcare educators is cost effective because of saving time (Chukwuere, 2024.)

The dangers of over-reliance: Is ChatGPT weakening independent thinking?

With the integration of ChatGPT into education, the critical thinking ability, and creativity of the students may gradually deteriorate as they depend on the knowledge generated by the ChatGPT (Alkhaqani, 2023; Alkhaqani, 2023; Zhai et al., 2024). Although the students rely on the knowledge generated by the ChatGPT, its limited knowledge provides answers depending on the pre-trained datasets (Abujaber et al., 2023). With minimal changes to the input data, ChatGPT might generate false, inaccurate contents (Abujaber et al., 2023).

It also usually provides different decisions when entering paraphrased versions of the input text (Abujaber et al., 2023). When integrating this technology into nursing education, concerns about knowledge reliability also emerge. Since it depends on the data on which it was trained, it may not always align with evidence-based practice, which is essential in nursing (Shorey et al., 2024).

The possibility of AI hallucinations, which refer to fabricated or inaccurate information presented as fact, or stochastic parroting, which involves repeating patterns without true understanding, creates significant challenges in the sensitive contexts of providing legal advices and education. (Joshi, 2025; Shorey et al., 2024; Zhai et al., 2024).

Integrating the knowledge generated by ChatGPT into evidence-based practice in nursing education creates risk of over-reliance. This happens when, without understanding the context, the model generates data according to the pattern learned in the training. Studies highlight that especially when students become overly dependent on AI-generated content. It often led to reduced critical and analytical thinking skills among the students (Chukwuere, 2024; Zhai et al., 2024).

A key concern emerges in integrating ChatGPT in the context generated of nursing education. Healthcare needs the ability for ethical decision-making and research to understand the advanced psychological and biological systems (De Silva et al., 2024). ChatGPT is not competent enough to achieve these demands as it is an automated chatbot. Nursing is a field that is based on caring for sick individuals with complex human interventions and emotions. Nurses need emotional intelligence in dealing with the patient community. Lack of human emotion is a pitfall of ChatGPT when incorporated into nursing education (Abujaber et al., 2023).

Students who feel their concerns are not properly addressed by the chatbot may become frustrated and dissatisfied (Chukwuere, 2024).

Teaching and ethical challenges in AI-supported learning

The use of ChatGPT in education can create an unfair advantage for students who have access to the technology, as it helps them generate answers and improve academic performance. Students who do not have access, due to lack of devices, internet, or subscription, may fall behind, leading to inequality in learning

opportunities. This situation highlights the importance of ensuring fair access to AI tools, offering alternatives for students without access, and implementing measures to prevent academic dishonesty and maintain a level playing field (Abujaber et al., 2023; Athilingam & He, 2024). Generated answers through the ChatGPT raise the ethical issue of plagiarism as the assignments generated through AI lead to plagiarism which is a negative sign of academic integrity. Currently, there is no reliable, validated, or universally accepted tool for detecting the unethical use of AI-generated text in academia. This makes it possible for individuals to present ChatGPT-generated content as original work without easy detection (Chukwuere, 2024).

A threat to privacy and data security arises as the data is not protected satisfactorily because it involves the large amount of collection and storage data to personalize learning. Experts emphasized the need for strong policies and practices to protect this information (Badawi et al., 2018). Superficial generated data with the lack of critical thinking enhances the ethical concern on responsibility and accountability (Abujaber et al., 2023; A. L. Alkhaqani, 2023; Athilingam & He, 2024; Shorey et al., 2024). It is essential to develop strategies that incorporate its benefits while minimizing risks to academic integrity when integrating AI in to the nursing education (Badawi et al., 2018; Chukwuere, 2024). Student needs must be guaranteed when educational institutions look at using AI, including ChatGPT for academic purposes (Chukwuere, 2024).

The future of AI integration in nursing education

In the digital era, nursing and nursing education must embrace technology to enhance efficiency and improve outcomes. ChatGPT has the potential

to transform nursing education. Although ChatGPT can be involved in healthcare education and pedagogical decision-making, it has limitations in replicating complex human intellectual activities. Immediate considerations are the need to implement policies to enhance academic integrity, confidentiality, and privacy, and the potential barriers to incorporating AI into nursing education. To reduce the risk of overreliance and academic dishonesty academic institutions are recommended to be involved in training the staff on ChatGPT education, employ detection software, and academic integrity rules, and find different evaluation criteria such as viva-based examinations to evaluate students.

Create AI-use policy, incorporate prompt-annotation in submissions, redesign assessments to include viva/OSCE and authentic tasks. Faculty training sessions are need to be included into the nursing curriculum to reduce the misinformation and inaccurate data that interfere with the quality of nursing education. Active involvement of stakeholders to ensure confidential and responsible engagement of ChatGPT in the pedagogical framework of nursing with the rules and regulations is pivotal.

With the ability to revolutionize nursing education in accordance with ethical standards, students will be able to develop hands-on skills through virtual simulation procedures with personalized teaching-learning scenarios. However, the application of emotional intelligence should not be implemented through the AI-generated chatbot as the nurses are dealing with a human-centered work environment that promptly needs to address empathy, kindness, and emotional understanding. Integrating ChatGPT into

nursing education is a wise and forward-thinking step, but it must be guided by careful planning, strong management, and strict ethical standards.

Conclusion

The integration of ChatGPT into nursing education offers significant opportunities to strengthen teaching and learning through personalized guidance, timely feedback, enhanced communication, and active learning strategies. Its capacity to support clinical reasoning, virtual simulation, and academic productivity positions it as a valuable cognitive aid for both educators and students. However, these advantages coexist with important challenges. Over-reliance on AI-generated content, risks of misinformation, inequities in access, and threats to academic integrity highlight the need for cautious and responsible implementation. Additionally, nursing is a profession grounded in human connection, empathy, and ethical judgment, qualities that AI cannot replicate. Therefore, while ChatGPT can complement nursing education, it cannot replace the humanistic competencies essential to the profession.

A balanced and ethical approach is required to ensure that the use of ChatGPT enriches rather than undermines educational quality. Establishing clear policies, redesigning assessments, strengthening academic integrity mechanisms, promoting data privacy, and providing faculty training are essential steps. With appropriate governance, continuous monitoring, and curriculum-wide collaboration, ChatGPT can be effectively integrated as a supportive tool that enhances learning while safeguarding the core values of nursing. Ultimately, leveraging AI responsibly will enable nursing education to evolve in alignment with technological advancements while preserving the human-

centered principles that define nursing practice

Conflicts of interest

The authors declared that they have no conflicts of interest.

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