

Undergraduate Nursing Students' Perspective on Artificial Intelligence Integration in Advanced Nursing Research and Practice

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Abstract

Artificial Intelligence (AI) is rapidly transforming healthcare systems, medical research, and educational practices. In nursing education, AI technologies are increasingly being integrated to support learning, research activities, and clinical decision-making. Understanding undergraduate nursing students' perspectives on AI integration is essential for preparing future nurses to work effectively in technology-driven healthcare environments. This discussion paper explores undergraduate nursing students' perceptions regarding the integration of AI in advanced nursing research and practice. The study discusses the perceived benefits of AI, including enhanced learning experiences, improved research efficiency, and support for clinical decision-making. It also examines challenges such as ethical concerns, data privacy issues, limited AI literacy, and the risk of overreliance on technology. The paper further highlights the implications of AI integration for nursing education and suggests that nursing curricula should incorporate AI literacy, digital competencies, and ethical training. The findings emphasise the importance of preparing undergraduate nursing students to effectively use AI technologies while maintaining the human-centred values of nursing practice. Integrating AI-related competencies into nursing education can contribute to improved research capabilities, enhanced clinical practice, and better patient outcomes.

Keywords

Artificial intelligence
Clinical practice
Digital health
Nursing education
Nursing research
Undergraduate nursing students

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) technologies has significantly influenced healthcare systems, medical research, and professional education. AI applications such as predictive analytics, clinical decision-support systems, intelligent tutoring platforms, and generative AI tools are increasingly being used to improve healthcare delivery and educational outcomes (Lin, et al., 2025). In the field of nursing, AI has the potential to enhance evidence-based practice, support clinical decision-making, and improve patient care outcomes. Nursing education is also experiencing a transformation due to the growing role of digital technologies (Ma, et al., 2025). AI-powered learning systems can offer personalized learning experiences, adaptive assessments, and simulation-based training that support the development of critical thinking and clinical reasoning skills among nursing students. These technologies enable students to engage with complex clinical scenarios in a controlled environment, thereby strengthening their readiness for real-world healthcare settings (Nashwan, et al., 2025).

Undergraduate nursing students represent the future workforce of healthcare systems and will inevitably interact with AI-enabled technologies in both research and clinical practice (Qahtani, et al., 2024). Therefore, understanding their perspectives regarding AI integration is crucial for designing effective educational strategies. Students' perceptions can influence their willingness to adopt AI tools, their level of engagement with technology-enhanced learning environments, and their ability to utilize AI in professional practice. Despite the potential benefits of AI integration, concerns remain regarding ethical issues, data privacy, academic integrity, and the possibility of overreliance on technology. Nursing professionals must maintain a balance between technological innovation and the human-centered values that define nursing practice. This discussion paper aims to explore undergraduate nursing students' perspectives on the integration of AI in advanced nursing research and practice and to examine the potential opportunities and challenges associated with its adoption.

METHODS

This study adopts a discussion-based analytical approach supported by existing literature on artificial intelligence in nursing education and healthcare practice. The method involves reviewing and synthesizing current scholarly discussions, empirical findings, and theoretical perspectives related to AI integration in nursing education and research (Almasi, et al., 2001; Yanamala & Suryadevara, 2023). Relevant academic articles, research reports, and scholarly publications focusing on AI in healthcare, nursing education,

and digital health technologies were examined to identify key themes related to students' perceptions, opportunities, and challenges associated with AI integration. The literature was analyzed to highlight major trends in AI adoption, including its applications in learning environments, research processes, and clinical decision-making. The thematic analysis approach was used to categorize findings into major discussion areas, including perceived benefits of AI, challenges associated with its implementation, and implications for nursing education and professional practice. This method allows for a comprehensive understanding of undergraduate nursing students' perspectives and provides a conceptual framework for discussing the role of AI in advanced nursing research and practice.

DISCUSSION

AI as a Support Tool for Nursing Education

One of the most significant advantages of AI integration in nursing education is its ability to enhance the learning experience. AI-powered learning platforms can provide personalized educational content based on students' individual learning styles and performance levels. These adaptive learning systems help students better understand complex clinical concepts and improve knowledge retention (Glauberman, et al., 2023). AI-based simulation tools also offer interactive clinical scenarios where nursing students can practice patient assessment, diagnosis, and treatment planning without risking patient safety. Such simulations help students develop critical clinical reasoning skills and improve their confidence in handling real-world healthcare situations (Chance, 2025).

Role of AI in Nursing Research

AI technologies can significantly enhance the efficiency and quality of nursing research. AI-based tools can assist researchers in analyzing large datasets, identifying patterns in healthcare data, and generating predictive models that support evidence-based practice (Ruksakulpiwat, et al., 2025). For undergraduate nursing students, these technologies can simplify literature searches, data management, and statistical analysis, thereby improving research productivity. AI tools can also support academic writing and research design by helping students organize ideas, summarize complex literature, and identify research gaps. As a result, students can focus more on analytical thinking and interpretation rather than spending excessive time on routine tasks.

Ethical and Academic Integrity Concerns

Despite the benefits of AI technologies, their integration into nursing education raises important ethical concerns. The use of generative AI tools in academic settings has led to debates about academic integrity and the authenticity of student work. Students may rely heavily on AI-generated content for assignments, potentially reducing opportunities for independent learning and critical thinking. Moreover, AI technologies used in healthcare research often require access to sensitive patient data. Ensuring the privacy and security of such data remains a major challenge. Nursing students must therefore be educated about ethical guidelines and responsible AI usage (Buchanan, et al., 2020).

Risk of Overreliance on AI Technologies

Another concern associated with AI integration is the potential for overreliance on technological systems. While AI can provide valuable decision-support tools, it should not replace the clinical judgment and professional expertise of nurses. Nursing students must develop the ability to critically evaluate AI-generated recommendations rather than accepting them uncritically (Sharma, et al., 2022). Maintaining a balance between technological assistance and human-centered care is essential to preserving the ethical and professional values of nursing practice.

Need for AI Literacy in Nursing Curriculum

The perspectives of undergraduate nursing students indicate a need for improved AI literacy within nursing education programs. Many students recognize the importance of AI but feel inadequately

prepared to use such technologies effectively (Simms, 2025). To address this issue, nursing curricula should incorporate topics related to digital health technologies, AI applications in healthcare, and ethical considerations in AI-assisted decision-making. Interdisciplinary collaboration between nursing, computer science, and health informatics departments can also help students develop a deeper understanding of AI technologies.

CONCLUSION

Artificial Intelligence is increasingly shaping the future of healthcare, nursing education, and research practices. Undergraduate nursing students generally perceive AI as a valuable tool that can enhance learning experiences, improve research efficiency, and support clinical decision-making. However, students also express concerns related to ethical issues, academic integrity, data privacy, and the risk of overreliance on technological systems. These perspectives highlight the need for educational institutions to integrate AI-related competencies into nursing curricula. By developing AI literacy, digital competencies, and ethical awareness among nursing students, educational programs can prepare future nurses to effectively utilize AI technologies in clinical practice and research. Ultimately, AI should be viewed as a supportive tool that complements the professional expertise and compassionate care provided by nurses. Proper integration of AI into nursing education can contribute to improved healthcare outcomes while preserving the human-centered values that define the nursing profession.

Competing Interest

The authors declare no conflict of interest.

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REFERENCES

- Almasi, J. F., O'Flahavan, J. F., & Arya, P. (2001). A comparative analysis of student and teacher development in more and less proficient discussions of literature. *Reading Research Quarterly*, 36(2), 96-120. <https://doi.org/10.1598/RRQ.36.2.1>

- Buchanan, C., Howitt, M. L., Wilson, R., Booth, R. G., Risling, T., & Bamford, M. (2020). Predicted influences of artificial intelligence on the domains of nursing: Scoping review. *JMIR Nursing*, 3(1), e23939. <https://doi.org/10.2196/23939>
- Chance, E. A. (2025). The combined impact of AI and VR on interdisciplinary learning and patient safety in healthcare education: A narrative review. *BMC Medical Education*, 25(1), 1039. <https://doi.org/10.1186/s12909-025-07589-7>
- Glauber, G., Ito-Fujita, A., Katz, S., & Callahan, J. (2023). Artificial intelligence in nursing education: Opportunities and challenges. *Hawai'i Journal of Health & Social Welfare*, 82(12), 302. <https://pubmed.ncbi.nlm.nih.gov/38093763/>
- Lin, Y., Luo, Z., Ye, Z., Zhong, N., Zhao, L., Zhang, L., ... & Chen, Y. (2025). Applications, Challenges, and Prospects of Generative Artificial Intelligence Empowering Medical Education: Scoping Review. *JMIR Medical Education*, 11(1), e71125. <https://doi.org/10.2196/71125>
- Ma, J., Wen, J., Qiu, Y., Wang, Y., Xiao, Q., Liu, T., ... & Sun, Z. (2025). The role of artificial intelligence in shaping nursing education: A comprehensive systematic review. *Nurse Education in Practice*, 84, 104345. <https://doi.org/10.1016/j.nepr.2025.104345>
- Nashwan, A. J., Cabrega, J. A., Othman, M. I., Khedr, M. A., Osman, Y. M., El-Ashry, A. M., ... & Mousa, A. A. (2025). The evolving role of nursing informatics in the era of artificial intelligence. *International Nursing Review*, 72(1), e13084. <https://doi.org/10.1111/inr.13084>
- Qahtani, K. M. M., Bakkar, R. M. M., Meshni, I. A. M., Alqahtani, J., Siddiq, Y. A. M., Taher, Z. Y., ... & Taher, S. Y. (2024). AI-driven transformations in nursing preparing the workforce for future healthcare challenges: highlights through systematic review. *Journal of International Crisis and Risk Communication Research*, 7(S11), 1393. <https://doi.org/10.63278/jicrcr.vi.1288>
- Ruksakulpiwat, S., Phianhasin, L., Benjasirisan, C., Su, T., Riangkam, C., Thorngthip, S., ... & Angkaew, N. (2025). Artificial intelligence in nursing research: A systematic review of applications, benefits, and challenges. *International Nursing Review*, 72(3), e70080. <https://doi.org/10.1111/inr.70080>
- Sharma, M., Savage, C., Nair, M., Larsson, I., Svedberg, P., & Nygren, J. M. (2022). Artificial intelligence applications in health care practice: Scoping review. *Journal of Medical Internet Research*, 24(10), e40238. <https://doi.org/10.2196/40238>
- Simms, R. C. (2025). Generative artificial intelligence (AI) literacy in nursing education: A crucial call to action. *Nurse Education Today*, 146, 106544. <https://doi.org/10.1016/j.nedt.2024.106544>
- Yanamala, A. K. Y., & Suryadevara, S. (2023). Advances in data protection and artificial intelligence: Trends and challenges. *International Journal of Advanced Engineering Technologies and Innovations*, 1(01), 294-319.