

Title: Perceptions and attitudes of nurse practitioners toward artificial intelligence adoption in health care

Author: Moustaq Karim Khan Rony, Sharker Md Numan, Fateha Tuj Johra, Khadiza Akter, Fazila Akter, Mitun Debnath, Sujit Mondal, Md Wahiduzzaman, Mousumi Das, Mohammad Ullah, Mohammad Habibur Rahman, Shuvashish Das Bala, Mst Rina Parvin

Abstract: With the ever-increasing integration of artificial intelligence (AI) into health care, it becomes imperative to gain an in-depth understanding of how health care professionals, specifically nurse practitioners, perceive and approach this transformative technology. This study aimed to gain insights into nurse practitioners' perceptions and attitudes toward AI adoption in health care. This qualitative research employed a descriptive and phenomenological approach using in-depth interviews. Data were collected through a semi-structured questionnaire with 37 nurse practitioners selected through purposive sampling, specifically Maximum Variation Sampling and Expert Sampling techniques, to ensure diversity in characteristics. Trustworthiness of the research was maintained through member checking and peer debriefing. Thematic analysis was employed to uncover recurring themes and patterns in the data. The thematic analysis revealed nine main themes that encapsulated nurse practitioners' perceptions and attitudes toward AI adoption in health care. These included nurse practitioners' perceptions of AI implementation, attitudes toward AI adoption, patient-centered care and AI, quality of health care delivery and AI, ethical and regulatory aspects of AI, education and training needs, collaboration and interdisciplinary relationships, obstacles in integrating AI, and AI and health care policy. While this study found that nurse practitioners held a wide range of perspectives, with many viewings AI as a tool to enhance patient care. This research provides a valuable contribution to the evolving discourse surrounding AI adoption in health care. The findings underscore the necessity for comprehensive education and training in AI, accompanied by clear and robust ethical and regulatory guidelines to ensure the responsible integration of AI in health care practice. Furthermore, fostering collaboration and interdisciplinary relationships is pivotal for the successful incorporation of AI in health care. Policymakers should also address the challenges and opportunities that AI presents in the health care sector. This study enhances the ongoing conversation on AI adoption in health care by shedding light on the perspectives of nurses, thereby shaping future strategies for AI integration.

Keywords: Artificial Intelligence; Attitudes; Health Care; Nurse Practitioners; Perceptions.

DOI: <https://doi.org/10.1002/hsr2.70006>

<https://pubmed.ncbi.nlm.nih.gov/39175600/>