

Perceived Challenges of Artificial Intelligence in Healthcare among Undergraduate Medical Students at a Public Medical School in Sarawak, Malaysia

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ABSTRACT

Introduction: As artificial intelligence (AI) becomes more integrated into healthcare, it also brings challenges. Understanding these perceived challenges among medical students is crucial for developing educational frameworks that prepare them to navigate these challenges in clinical practice. However, the perceived challenges of AI in healthcare among medical students in Sarawak, Malaysia, remain underexplored.

Aim/Purpose/Objective: This study aimed to assess the perceived challenges of AI in healthcare among undergraduate medical students at a public medical school in Sarawak, Malaysia.

Method: A mixed-method cross-sectional survey was conducted from October 2023 to August 2024 among 185 undergraduate medical students from year one to year five at a public medical school in Sarawak. A convenience sampling method was employed. Data were collected using a validated questionnaire adapted from a previous Canadian study assessing medical students' perceived challenges of AI in healthcare. Participants rated their agreement on a 5-point Likert scale. Quantitative responses were analysed descriptively while qualitative data from open-ended questions were thematically analysed.

Results: Most students expressed concerns about AI-related challenges: 73.0% (30.3% strongly agree, 42.7% agree) supported the statement that "AI in medicine will raise new ethical challenges" while 79.5% (30.3% strongly agree, 49.2% agree) supported that "AI in medicine will raise new social challenges." Additionally, 73.5% (27.0% strongly agree, 46.5% agree) supported that "AI in medicine will raise new challenges around health equity." In contrast, only 22.2% (6.5% strongly agree, 15.7% agree) supported that "The Malaysian healthcare system is currently well prepared to deal with challenges having to do with AI". Qualitative thematic analysis highlighted key themes of "Ethical, privacy, and security issues" and "Trust and reliability concerns".

Conclusion: Most of the medical students in this study expressed concerns about challenges of AI in healthcare, especially in ethical, privacy and security challenges. Comprehensive AI training, including ethical guidelines, is needed to equip future healthcare professionals to address these challenges effectively.

Keywords: Artificial intelligence; challenges; healthcare; medical students; medical education