Readiness towards the Use of Artificial Intelligence in Medicine and Associated Factors among Undergraduate Medical Students at a Public Medical School in Sarawak, Malaysia

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ABSTRACT

Introduction: Artificial intelligence (AI) is transforming healthcare and medical education, requiring future healthcare professionals to integrate AI effectively into clinical practice. Understanding the readiness of medical students to adopt AI is essential for curriculum development. However, the readiness of medical students in Sarawak, Malaysia, towards AI in medicine and the significant factors influencing it remain underexplored.
Aim/Purpose/Objective: This study aimed to assess the readiness of undergraduate medical students at a public medical school in Sarawak, Malaysia, towards AI in medicine and to identify the factors significantly associated with their readiness.
Method: A quantitative cross-sectional survey study was conducted from October 2023 to August 2024, involving 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 the Medical Artificial Intelligence Readiness Scale for Medical Students (MAIRS-MS), covering four domains (cognition, ability, vision, and ethics) and related variables. Descriptive statistics were used to assess AI readiness, and statistical analyses were performed to identify significant factors associated with readiness ($p < 0.05$).
Results: The mean overall AI readiness score was 69.92%. Domain-specific mean scores were: vision (75.6%), ethics (73.48%), ability (72.56%), and cognition (63.82%). Gender, year of study, and AI training were significantly associated with higher AI readiness. Male students scored higher in ability ($p = 0.001$). Year four students had higher scores in ability ($p = 0.041$) and total AI readiness ($p = 0.049$). Students with AI training scored higher in vision ($p = 0.039$) and ethics ($p = 0.045$).
Conclusion: Undergraduate medical students from this study showed moderate readiness for AI in medicine. Gender, year of study, and AI training were significant associated factors. Early integration of targeted AI training is recommended to further enhance their readiness for an AI-driven healthcare system.

Keywords: Artificial intelligence; readiness; medicine; medical students; medical education