



Pedagogical Versus Andragogical Learning Patterns Reflected in Artificial Intelligence Use Among Allied Health Undergraduates at the University of Ruhuna, Sri Lanka

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Artificial intelligence (AI) is increasingly influencing health professions education, yet the extent to which positive student perceptions translate into routine educational use remains unclear, particularly within a pedagogy and andragogy framework in low- and middle-income settings. To identify independent predictors of high-frequency educational AI use among allied health undergraduates at the University of Ruhuna, Sri Lanka. A descriptive cross-sectional online survey was conducted among 278 undergraduates from the Departments of Nursing, Pharmacy, and Medical Laboratory Science. A pretested questionnaire assessed demographics, knowledge, attitudes, practices, barriers, and ethical concerns related to AI. Binary logistic regression determined independent predictors of high-frequency educational AI use, adjusting for gender, formal AI education, knowledge level, academic year, and department. Learning orientation was not measured separately but inferred from patterns of autonomous AI use versus non-use, consistent with adult learning theory. Although 51.4% of students reported adequate AI knowledge and 86.7% perceived AI as beneficial, educational AI use remained limited. Nearly half (48.6%) reported no academic AI use, and only 5.4% used AI daily. The most common barriers were lack of skill (79.3%) and limited resources (61.1%). In the adjusted model, gender was the only significant independent predictor. Male students had approximately two-fold higher odds of frequent educational AI use than females (OR = 2.05; 95% CI:1.12 to 3.75; $p = 0.020$). Other variables were not significant. Positive perceptions and perceived knowledge of AI did not translate into autonomous educational practice, revealing an attitude-practice gap. Frequent self-initiated AI use was interpreted as a proxy for andragogical learning, whereas low or absent use reflected reliance on pedagogically structured learning. Skill-focused, autonomy-supportive, and gender-sensitive strategies are essential to promote equitable and effective AI integration in allied health education.

Keywords: Artificial intelligence, Allied health education, Pedagogy, Andragogy, Educational technology, Sri Lanka