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Students' acceptance and use of generative AI in pharmacy education: inter...

# Students' acceptance and use of generative AI in pharmacy education: international cross-sectional survey based on the extended unified theory of acceptance and use of technology

By

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**Abstract** Background Generative artificial intelligence (GenAI) has significant potential implications for pharmacy education, but its ethical, practical, and pedagogical implications have not been fully explored. Aim This international study evaluated pharmacy students' acceptance and use of GenAI tools using the Extended Unified Theory of Acceptance and Use of Technology (UTAUT). Method A cross-sectional survey of pharmacy students from nine countries during the first half of 2024 assessed GenAI usage patterns, curricular integration, and acceptance via the Extended UTAUT framework. After appropriate translation and cultural adaptation, exploratory factor analysis (EFA) identified key adoption factors. Results A total of 2009 responses were received. ChatGPT and Quillbot were the tools most frequently utilised. EFA identified three key dimensions: Utility-Driven Adoption, Affordability and Habitual Integration, and Social Influence. Students rated performance and effort expectancy highly, highlighting their perceived usefulness and ease of use of GenAI tools. In contrast, habit and price value received lower ratings, indicating barriers to habitual use and affordability concerns. Gender disparities were noted, with males demonstrating significantly higher acceptance ( $p < 0.001$ ). Additionally, country-specific differences were evident, as Malaysia reported a high performance expectancy, while Egypt exhibited low facilitating conditions. Over 20% indicated an over-reliance on GenAI for assignments, raising ethical concerns. Significant gaps were observed, such as limited ethical awareness-only 10% prioritised legal and ethical training-and uneven curricular integration, with 60% reporting no formal exposure to Generative AI. Conclusion Findings reveal critical gaps in ethical guidance, equitable access, and structured GenAI integration in pharmacy education. A proactive, context-specific strategy is essential to align technological innovation with pedagogical integrity.



## Keywords

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