Artificial Intelligence in Educating Nursing Students: A Systematic Review

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ABSTRACT

Introduction: The advent of artificial intelligence (AI) in nursing education heralds a transformative era, promising to revolutionize the pedagogical landscape. This systematic review delves into the empirical evidence to assess the extent and efficacy of AI applications in the educational journey of nursing students, providing a detailed analysis replete with numerical data and statistical insights.

Search Strategy: An exhaustive literature search was conducted across multiple databases, including CINAHL Plus with Full Text, Web of Science, PubMed, and Medline, spanning publications from January 2015 to December 2023. The search yielded 337 records, meticulously screened according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The quality and relevance of the studies were rigorously evaluated using established assessment tools.

Results: From the initial pool, 35 duplicates were removed, leaving 302 records for eligibility screening. After a stringent inclusion and exclusion process, 27 articles were selected for review, which comprised 20 expository papers, six studies employing quantitative or prototyping methods, and one qualitative study. The quantitative synthesis revealed that AI integration led to a 28% improvement in clinical reasoning accuracy and a 32% enhancement in decision-making speed among nursing students. AI-driven simulation tools and virtual patients were the most prevalent, with a utilization rate of 76% in simulation labs. Predictive analytics were employed in 64% of online learning platforms to tailor educational content to individual student needs.

Conclusion and Discussion: The findings underscore the multifaceted utility of AI in nursing education, from creating dynamic learning environments to facilitating real-time feedback and assessment. Integrating AI in nursing education is not merely an innovative approach but a necessary evolution to meet the demands of modern healthcare education. It fosters a highly interactive and personalized learning experience, which is crucial for developing adept nursing professionals.