Ethical Challenges in Implementing Artificial Intelligence Technology in Medical Education

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ABSTRACT

Introduction: Artificial intelligence (AI) uses algorithms and mathematical models to simulate and imitate human capabilities such as thinking, interpretation, pattern recognition, decision-making, and problem-solving. Currently, about half of all fields use some forms of intelligence. AI can increase productivity and performance across various industries, including medical education. Utilizing data analysis and advanced algorithms, it facilitates improved decision-making and more effective training. This study aimed to investigate ethical challenges in implementing AI technology in medical education.

Search Strategy: In this systematic review, we searched " ethical challenges", "ethics in artificial intelligence", "ethics in the use of AI in medical education", in the Google scholar, PubMed, and Scopus database. We focused om original articles published between 2019 and 2024. Among the 68 articles included, 11 were evaluated using the checklist of review articles.

Results: Using AI in medical education is accompanied by many ethical challenges. Also, decisions may conflict with existing laws and regulations in a society or country, hurting society and culture. For instance, artificial algorithms in online advertising can be programmed in a way that promotes false promotion or unethical promotion. Another major ethical challenge in the use of AI is its accountability. It is unclear how artificial algorithms are made and used behind them, which makes these systems unresponsive to society and different people. In addition, cases of injustice can also be observed in the data analysis.

Conclusion and Discussion: The use of AI in medical education has many ethical challenges, including the opposition to people's privacy, decision-making contrary to the laws and regulations of a country, and a lack of accountability for one's decisions, which is unfavorable to culture and society and spreads injustice.

Keywords: Artificial intelligence, Ethics, Medical education

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