

The Role of Artificial Intelligence in Transforming Medical Education: Horizons, Innovations and Challenges



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Abstract Artificial intelligence (AI) holds promise in transforming medical education through improved diagnostics, personalized treatments, and automated tasks. This study examines AI's potential in healthcare and medical education, highlighting benefits, challenges, and current research in medical practice and education. A survey of 92 medical students explored perceptions of AI across four domains: its role in medicine, impact on medical education, ethical concerns, and required skills. Findings show 60.9% of students anticipate AI reducing costs and automating tasks, while 39.1% express skepticism due to initial investments. Regarding medical education, 43.3% see AI's impact varying by application, with 32.3% endorsing its use in simulations. Ethically, 47.8% prioritize accountability, and 30.4% emphasize transparency. Critical thinking and data skills are valued by 73.91% of students. Students acknowledge AI's potential benefits in medical education but recognize ethical dilemmas and implementation challenges. This study advocates for a balanced approach to integrating AI into healthcare and medical education, emphasizing ethical awareness and skill development among future medical professionals.

Keywords Artificial intelligence · Medical education · Student perception · Ethical issues · Healthcare technology · Diagnostic automation

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5 Conclusions

Our study indicates that while students recognize the significant benefits of AI in medicine, they also identify critical challenges and ethical considerations. The insights from our survey, combined with existing literature, suggest a balanced approach to integrating AI into medical practice and education. This approach should focus on maximizing the benefits of AI while addressing its ethical and practical challenges to prepare pre-service healthcare professionals for the evolving medical landscape.

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