LETTER TO THE EDITOR

Transforming Medical Education During the COVID-19 Pandemic

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We write to highlight the transformative role of Artificial Intelligence (AI) in medical education during the COVID-19 pandemic, offering insights into its potential for future educational innovations.[1, 2] The COVID-19 pandemic, declared by the World Health Organization in March 2020, disrupted in-person medical education, prompting universities to adopt online learning platforms. This technology emerged as a transformative tool, offering innovative solutions to address these challenges.

The term "Artificial Intelligence," first coined by John McCarthy in 1955, refers to machine systems exhibiting intelligent behaviors such as perception, reasoning, learning, communication, and performing human-like tasks. AI functions are typically divided into three categories: symbolic (based on logic and knowledge), statistical (using probabilistic methods and machine learning), and sub-symbolic (including embodied intelligence and search algorithms).[3] This technology has addressed numerous challenges in medical education, including natural language processing, reasoning, planning, cognitive modeling, virtual inquiry systems, remote medical management, and recording educational content. For example, platforms like Moodle with AI-driven features provide medical students with realistic scenarios and interactive learning modules, enhancing their clinical reasoning and decision-making skills.[4] Conversely, traditional assessment methods for medical students, such as in-person exams and practical evaluations, encountered challenges during the pandemic. To address this, AI-powered remote assessment tools were introduced to ensure fair and accurate evaluations. These tools can monitor students during online examinations, detect cheating, and even assess clinical skills through virtual simulations.[5] Another important aspect of AI integration in medical education is the provision of real-time feedback and assessment, enabling continuous monitoring of progress, identification of weaknesses, and enhancement of student performance.[6] By analyzing learning patterns, AI facilitates personalized education by identifying students' strengths, weaknesses, and educational needs.[7, 8] This technology also enables instructors to tailor educational content to individual learner requirements. It is undeniable that the pandemic has affected the mental health of students and healthcare professionals. In this context, AI-based mental health programs and chatbots have provided confidential and accessible resources to reduce stress and combat burnout.[9, 10]

Given the significant role of AI in facilitating personalized education, remote assessment, and mental health support during the COVID-19 pandemic, it is recommended that healthcare authorities promote the expansion of intelligent educational platforms, the use of AI-based assessment tools, and the development of digital mental health services to ensure sustainable and effective utilization of this technology for enhancing the quality of medical education.

Keywords Artificial Intelligence, COVID-19, Education, Medical, Distance

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Declarations

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Conflict of Interest
The authors declare that they have no competing interests.

Consent for Publication
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