

EDITORIAL

USAGE OF ARTIFICIAL INTELLIGENCE IN THE PAKISTANI MEDICAL EDUCATION SYSTEM; IS IT REALLY IMPLEMENTABLE AND BENEFICIAL?

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INTRODUCTION

Artificial intelligence (AI) may be defined as the ability of a machine or computer to perform tasks that usually require human intelligence including perception, reasoning, learning, problem-solving, and decision-making [1]. However, there is no single agreed definition for AI yet.

AI has several usages and advantages among various fields and domains. Some of the common benefits of AI include; it can reduce human errors and risks by performing tasks that require high accuracy, speed and reliability and it can work 24/7 without fatigue or interruptions, unlike humans who need rest and breaks. Moreover, AI can make unbiased and rational decisions based on data and algorithms, avoiding human biases and emotions and it can reduce costs and increase efficiency by automating processes and optimizing resources. Additionally AI can acquire and analyze large amounts of data and provide insights and solutions that humans may not be able to discover or comprehend. Furthermore, it can enhance human capabilities and creativity by providing assistance, feedback and suggestions [2-4].

AI use in medical profession/education:

However, the use of AI in teaching medical students is a two-edged sword and a current matter of debate in the medical education domain. Although AI can be used in education to personalize learning, assess students, tutor learners, and create content as well and has the potential to create/enhance workplace efficiencies along with aid in clinical decision-making. Nevertheless it also poses challenges and risks for medical students and

educators. Some of the issues that need to be addressed are:

Possible problems with AI in medical teaching: There are several possible problems associated with AI in medical teaching some of them are; How to design and deliver AI training curricula that balance technical and non-technical concepts for learners with diverse backgrounds and prior knowledge and how to update existing competency frameworks and assessment methods to reflect the changing role and skills of physicians in the era of AI. How to foster collaboration and communication between physicians, engineers, patients and other health professional involved in developing and using AI applications. Furthermore, how to ensure ethical, legal and social implications of AI are considered and integrated into medical education and practice [5-7].

POSSIBLE SOLUTIONS

➤ ***To avoid overreliance on AI tools for decision-making,***

Medical educators should ensure that students develop critical thinking and clinical reasoning skills through problem-based learning, case-based learning, and simulation-based learning. Students should also be encouraged to question and verify the AI-generated content or recommendations they encounter.

➤ ***To protect data privacy and security,***

Medical educators should follow the relevant laws and regulations regarding data collection, storage, and sharing. They should also educate students on the ethical and legal implications of using AI systems

that handle sensitive information. Additionally, they should use encryption, authentication, and anonymization techniques to safeguard data from unauthorized access or misuse.

➤ ***To address bias and fairness issues in AI systems,***

Medical educators should ensure that the data used to train and test AI systems are representative, diverse, and unbiased. They should also monitor and evaluate the performance of AI systems regularly and correct any errors or discrepancies. Furthermore, they should teach students how to identify and mitigate potential biases in AI systems and their impact on medical education and decision-making.

➤ ***To deal with ethical considerations of using AI in medical education***

Medical educators should adhere to the principles of beneficence, non-maleficence, autonomy, and justice. They should also involve students, patients, and other stakeholders in the design, development, and evaluation of AI systems. Moreover, they should foster a culture of ethical awareness and responsibility among students and healthcare professionals who use AI systems.

➤ ***To overcome technical challenges and resource requirements of implementing AI in medical education***

Medical educators should collaborate with experts from other disciplines, such as computer science, engineering, and data science. They should also seek funding and support from various sources, such as government agencies, and industry partners. However, it is a great challenge for resource constraints society like us [8-10].

CONCLUSION

AI usage is imperative, smart, and cost effective for Pakistani under-graduate as well as post-graduate medical education provided, we should be ready to adopt and willing to learn to implement it. Moreover, for implementation of AI we have to consider pros and cons and address associated issues to get better impact in prospective medical education.

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