EDITORIAL

Faculty development programmes: Essential for empowering health professional educators to blend AI in medical education

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Artificial Intelligence is an area of computer science that emphasizes the use of machine learning algorithms to mimic human thinking and problem-solving. The fast expansion of AI in today's world can be credited to the progress of algorithms, reasonable graphic processors and expanded annotated databases.[1]

AI is an essential tool in addressing complex healthcare issues worldwide. However, AI acceptance and integration in medical education took time, and significant advancements and broader adoption became more prominent after 1980s. Also, the application of AI in medical education has grown significantly over the past 20 years, as shown by the rising volume of publications in this area. Given the widespread use of AI in many facets of medical practice, educational programmes pertinent to this field have to be created and put into place in academic institutions.[2]

There have been mixed reactions and emotions among healthcare professionals since AI has come into daily practice. For some, accepting the change has been an easy process. For others it has been a challenge, as it is human nature to resist the change in favour of maintaining the familiar and comfortable status quo. However, accepting change is vital for successful implementation of new initiatives.[3]

The use of artificial intelligence into teaching and learning, curriculum development and assessment of students in the health professions education is pivotal to equip future healthcare professionals with rapid advancements.[4] By taking advantage of AI, faculty can upgrade the designing and delivery of teaching content. Systems which are AI based can facilitate faculty to evolve personalized learning resources to assist specific student's requirements, eventually nurturing a more appealing and productive learning environment.[5]

The use of AI can significantly reduce faculty workload and minimize the time required to, solve complex problems, review diverse curricula and highlight connections between parameters in curriculum assessment if used efficiently. For instance, AI can evaluate how well a curriculum is working and gauge medical students' overall satisfaction with their courses, it can help by delivering personalized and adaptive instructional content based on student feedback, enabling learners to identify and address their knowledge gaps effectively. Moreover, AI can streamline the assessment process, making it more accurate, quicker, and cost-efficient, while providing detailed and tailored feedback to each student. These are all essential steps for training future doctors.[6]

While there has certainly been recognition of the obvious benefits AI provides to medical education, little has been done to actually train educators of the health professions. Most faculty remain unfamiliar with AI capabilities and are unsure how to effectively incorporate it into their curricula. If this stays unresolved, can negatively affect an educator's capability to prepare students for a future where AI will be one of the underpinnings of healthcare.

A recent Pakistan based survey involving 351 healthcare professionals found that most perceived themselves unaware of AI's role in healthcare, however they believed that AI technology can bring solutions to problems, which lies in our healthcare system but with the proper and ethical use of AI.[7] Another study was conducted by Akram et al. on 550 healthcare professionals that concluded AI technologies can help elevate the health delivery system in Pakistan by efficiency, access, and improvement in general. The paper finds focussed interventions necessary to address knowledge gaps, improve access to AI technologies, and alleviate data privacy and security concerns.[8] One multicentre study was conducted involving 21 dental faculty members from public and private dental colleges in South Punjab. The semi structured interview revealed that faculty members had low AI literacy but perceived AI as a solution for revolutionizing teaching and learning. The challenges raised by the faculty were lack of structured training facilities, limited resources, ethical limitations and biasness in assessment.[9] This reflects that healthcare

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professionals are willing to play their part in understanding the use of AI in medicine improving patient care but are unaware of its potential.

Based on the gap identified, there is a dire need for structured faculty development programmes to build faculty capacity specifically in the use of AI. This could mean setting up a bunch of focussed workshops, giving mixed courses that blend online and face-to-face learning, and always giving chances to learn more on the job. Also, health professions' educators must receive training that must achieve application of AI in medical education to its fullest capacity.[10] With this objective, a multidisciplinary approach must be used that blends proficiency in fields of medicine, computer technology, education keeping ethical considerations in place. These educators must be trained with essential skills to understand data analytics, AI algorithms and ethics, so that they can work on developing a curriculum which integrate AI and support educators to implement it in delivery of content, and assessment of students. For the medical schools, the best possible way to enrich faculty preparedness is by implementing focused faculty development programmes.[11] Moreover, continuous improvement and joint efforts between medical schools, industry and other regulatory agencies are necessary for keeping pace with extensively changing scenario of AI in medical education.[12]

However, the biggest barrier seen in prioritizing faculty capacity building is lack of realization of educational institutes. This includes not only comprehending the recently existing technological field but also foreseeing future directions in both AI and healthcare. The educational institutions must collaborate with their medical education department to create and execute effective capacity building programmes, providing sufficient resources, financial aid to get access of AI tools software's, and making sure that faculty members have available time and incentives to engage themselves in these activities.

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