Editorial

ARTIFICIAL INTELLIGENCE, ENTHUSIASM AND EQUITY- A NUANCED TAKE ON THE USE OF AI IN THE GLOBAL SOUTH

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Artificial Intelligence and generative AI may as well be the biggest turning point of the century, but this also presents the greatest equity paradox-While institutions in the Global North approach AI with measured caution, the Global South continues to embrace these technologies with great enthusiasm and at an accelerating pace. The disparity shown here is not just a question of fast /slow adoption rates of technology, but it also represents the complex interplay of educational gaps, economic imperatives, colonial legacies and contesting visions of the future of medical education. As medical educators in Pakistan and the wider global south, we need to navigate this paradox optimistically, but at the same time with critical vigilance. Multinational research surveys report that medical students have significantly more positive attitudes regarding AI integration in the Global South, as compared to their counterparts in the Global North.[1,2] A cross-sectional study involving 4596 medical, dental and veterinary students from 192 institutions across 48 countries reported that students from Latin America, Africa and Asia reported stronger beliefs in the transformative potential of AI and were more willing to adopt it than the global north.[3] This is not just limited to perception but also implementation. Another study showed that 92.3% respondents from the global south contexts believed that AI has a role in patient care, compared to 58.5% North American participants.[3] This presents a very striking contrast-while the Global North institutions debate ethical frameworks and regulatory boundaries, Global South medical schools are actively integrating artificial intelligence into clinical training, curricula and health care delivery. This enthusiasm is driven by several factors, the first being in that in the resource constraints presented in Global South healthcare systems, there are some urgent needs that AI promises to effectively address, such as diagnostic support in settings with physician shortages, educational tools and generative AI uses that can supplement limited faculty resources and facilitate as a fast fix for time constrained faculty.[4] Second, the concept of "leapfrogging" whereby one skips over some technological stages to go directly to the next one significantly impacts the discussions in those areas where the traditional infrastructure had been poorly developed throughout history.[5] Third, the digitally native populations in the Global South embrace technological solutions with very less scepticism than their Global North counterparts.[6] The Global North's measured approach stems from different priorities and historical experiences. The United Kingdom's AI Safety Summit, The European Union's AI Act and the United States' Executive Order on AI Safety all reflect concerns about misuse, privacy violations, algorithmic bias, and loss of human agency.[7,8] These regulatory frameworks have been generated from contexts where the overreach of technology has already led to backlash by the public- form controversies in facial recognition to issues with discriminatory algorithmic decision making in social services and even criminal justice. The World Health Organization also urges caution in AI, particularly generative AI use in healthcare, stressing upon issues like misinformation, premature deployment of technology that has

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not undergone sufficient validation, risk of bias etc. [9] The Global North's hesitancy symbolizes its role as the main inventor and seller of AI technologies; these countries are accountable for technologies that might bring about negative consequences if used all over the world. Moreover, strong data protection measures such as the General Data Protection Regulation (GDPR) set up legal structures that unavoidably delay the use of AI but at the same time are expected to safeguard people's rights.[10] Global south's rapid AI adoption can be explained if we see the historical patterns of knowledge dependency and technology extraction that characterized colonial medicine. It bears significant similarities to the current AI revolution.[11,12] There is a concept of 'data colonialism' which discusses how human life in the GS region is increasingly appropriated for data extraction only to be used within asymmetrical systems under control of Global North corporations.[13,14] Research on AI in healthcare reveals that out of 109 significant machine learning models, 101 were developed in the United States, Western Europe, or China, with only two originating from Global South countries.[16] The problem with this situation is that GS institutions are all consuming technology that has been designed elsewhere, embedding foreign epistemologies into their medical education systems while ultimately the data generated is contributing to enrichment of external corporations. The Global North technology giants still have a major share of the game when it comes to AI infrastructure software, hardware, and cloud storage—with almost total control.[14] In the GS, when medical schools choose to implement AI-based educational resources, they may become reliant on the continuous payment of international proprietary algorithms, and cloud services, which in turn, raises the issues of data rights, long-term costs, and the question of who really controls the technology. This dependency is very much akin to the colonial times in which the colonies were only allowed to supply raw materials, while all the manufacturing, knowledge generation, and control of the processes remained in the colonial centers. Apart from the extraction of resources, the use of AI in medical education in the Global South might result in ethical issues—specifically, the gradual destruction and taking away of local knowledge systems, clinical reasoning and understanding of health and illness practices which are specific to the culture. [15,16] The AI medical decision support systems that are trained solely on the medical literature and patient groups of the Global North are the ones that foster certain diagnostic frameworks, treatment algorithms, and evidence hierarchies while at the same time pushing to the side local clinical wisdom, traditional healing knowledge, and context-specific disease presentations. A study examining development of chatbots with AI for health information, found that those systems that lacked a local stakeholder involvement usually failed to account for community-based health beliefs, cultural idioms if distress, linguistics nuances and community-based health beliefs that majorly shape how patients actually describe and understand illnesses.[17] However, it would still be a very simplistic approach if the whole thing about AI adoption is viewed only from the perspective of colonial exploitation. The Global South's acceptance of AI is not only a sign of their cooperation, inventiveness, and the rightful hunt for answers to urgent health problems but also a symbol of their struggle. AI, when carefully brought into the picture, especially in the context of teaching and healthcare, really has the potential of being one of the major solutions to the problem of inequality in those areas. Many researches from low- and middle-income countries have shown how incredibly useful AI applications are in diagnostic support, telemedicine and decision making. Even having made improvements in treatment outcomes and reduced diagnostic errors in settings lacking specialised expertise.[18,19] These tools work to augment the clinical force where there is a shortage of health care workers. An important point is that the Global South cannot be labelled just as the helpless receiver of AI technologies, rather it is in the process of becoming a stronger source of innovation. For instance, the creation of an Amharic-speaking AI chatbot in Ethiopia is based on participation from various end-users, local patients and health workers, and a 95.7% accuracy rate is an indication of such an

approach in the development of AI that is culturally sensitive and linguistically appropriate.[18,20] This way of looking at the situation gives a positive twist to what has been considered as a negative scenario of the technology-dependent place: communities as co-creators, together with AI systems that enclose local wisdom instead of obliterating it. Pakistan's own technology industry that keeps growing with the help of the National Centre for Artificial Intelligence and other initiatives indicates the potential of the country to come up with solutions that meet its healthcare needs and educational contexts. South-South collaboration—sharing AI tools, training data, and expertise among Global South countries—paves the way to technological sovereignty that is not subject to the dependence on Global North companies nor to the exploitation that is characteristic of the extractive models.[21] Specifically for medical educators, AI powered assessment offers objective, standardized evaluation in settings where due to a smaller number of faculty comprehensive clinical skills assessment is a challenge.[22] The question now arises that given this landscape in the global south that is fraught by complexities, how do medical educators of this region approach AI integration? Outright rejection or overzealous embracing are both counterproductive. Instead, we propose here principles for equity based and careful AI adoption: several principles for thoughtful, equity-oriented AI adoption: Before adoption of any AI tool for medical education, a rigorous overview of the training data is needed to ensure it reflects our context.[23] Local capacity building and ownership should be preferred over passive usage of precooked softwares. Advocacy should be done for policies that encourage health data to be monitored by robust governance frameworks and under national leadership. A deep engagement of all stakeholders- community, health care professionals, students and patients is needed to understand whether the AI model is applicable contextually. Participatory design approaches that involve communities as co-creators rather than subjects yield more effective, equitable technologies.[24,25] The intention to use AI in medical education is an augmentation to support medical teaching. However, areas that need human mentorship should be shielded such as bedside teaching, reflective discussions and patient storytelling.[26] This is a call for action to global south regions. We must think reflectively in terms of equity and ensure that AI usage does not make disparities larger instead of shrinking them. If more students are from less affording backgrounds. Minority communities or remote areas, ensure that they have equitable opportunities to use the AI tools as their peers, otherwise do not push for adoption. The issue at hand is not whether to choose AI usage or not but how to incorporate it in our setups while not overlooking our contextual limits. A critical optimism that it will be beneficial for the global south with South-South collaboration and solid representation only. From us, this asks for intellectual honesty bearing in mind social disparities and inequalities, colonial heritages and the degree to which technology can act as an enabler or an inhibitor of progress.

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