

# ARTIFICIAL INTELLIGENCE - A NEW PLAYER IN THE FIELD OF MEDICINE

**Maj Gen Professor Dr. Hamid Shafiq (Retd) HI(M)**

HITEC Institute of Medical Sciences, Taxila, Pakistan

hamidshafiq.amc@gmail.com

The healthcare landscape is evolving at a very rapid pace. Artificial intelligence (AI) is working as a transformative force. The practice of medicine is likely to be revolutionized soon. Optimization of diagnosis and treatment is not very far off. From clinical decision-making to improving patient outcomes along with a reshaping of healthcare delivery system can all be achieved through the help of AI.<sup>1</sup>

AI has the potential to process vast amounts of clinical data with extraordinary accuracy. This is possible through advancements in machine / deep learning and language processing. Meaningful insights can be extracted in this way. Where human perception is perplexed, algorithms of AI can analyze complex data. Personalized management plans can then be chalked out.<sup>2</sup>

Interpretation of medical imaging is another field where AI has tremendous potential to help. AI algorithms are built on huge data of medical images. Rapid analysis of radiological scans and quick picking of abnormalities can facilitate clinicians for prompt action. Statistical analysis has proven that diagnostic accuracy has improved in the fields of radiology, dermatology and pathology by the use of AI. Diagnostic errors are reduced and patient care is expedited/improved.<sup>3</sup>

Understandably when treatment strategy gets optimized by AI, patient outcomes also improve. Based on patient data, guidelines and monitoring, AI algorithms can help clinicians select the most effective therapy with minimal side effects. Hence resource utilization automatically gets optimized. In the field of cardiology and oncology, AI can enable physicians to tailor management for individual patients. This approach enhances precision in medicine with better therapeutic outcomes.<sup>4</sup>

AI-driven healthcare systems can also help in

administrative matters. Virtual health assistants can empower patients to schedule their appointments, get information on health care and manage chronic conditions effectively. In the management of the health of the population in general, analytic platforms through AI can identify populations at risk and suggest preventive interventions. Moreover, resource allocation can be strategically planned to improve public health outcomes.<sup>5</sup>

Though AI has tremendous potential in medicine we have to be conscious about ethical issues in adopting it. These issues can be resolved at the level of the ethical committee e.g. if a patient is not willing to any management, his/her wish has to be honoured in preference to AI suggestion.<sup>6</sup> Similarly, social and regulatory issues also need to be addressed. The privacy of patients is of paramount importance along with the security of data. Algorithmic bias has also to be kept in mind while adopting AI-derived healthcare system. Trust building is required for the collaboration of different disciplines of medicine. AI algorithms require transparency. All stakeholders need to be engaged and informed before making any decision.<sup>7</sup> That is how responsible use of AI in medicine can be ensured.

From the above discussion, it can be concluded that a paradigm shift is knocking at the door in the practice of medicine. Unparalleled opportunities are at hand to improve patient care / clinical outcomes. Healthcare delivery seems to be transformed soon. AI-based technology can show new ways of management and research in medicine. Let us hope for an efficient, just, and patient-oriented healthcare system. On this novel journey, we have to be steadfast to imbibe the true spirit of AI and help humanity through different fields of medicine

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