Using artificial intelligence and machine learning to reduce patient wait times and increase patient satisfaction

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Dear Madam, Prolonged patient waiting time has long been a significant source of dissatisfaction among patients. Waiting time has been recognized by WHO as one of the key elements of a responsive healthcare system.[1] A study conducted by Bleustein et al. suggested that longer wait times negatively impacted the patient's confidence in the care provider and the perceived quality of care.[2] Furthermore, in large hospital settings, patients are expected to queue up multiple times before meeting with their physician, which amplifies their stress. We would like to highlight that the incorporation of artificial intelligence (AI) in healthcare can help reduce patient and physician stress.

Strategies such as telemedicine and online registration have been acquired in efforts to resolve this issue but these techniques may burden doctors with extra responsibilities. However, introducing an AI-based physician assistance programme, which was able to model itself on the decision-making requirements of the doctor significantly reduced the wait time and the burden on the hospital.[3] Xiaoqing Li et al developed an AI-based model that helped patients automatically order any investigations. Implementation of the model reduces waiting time while also playing a pivotal role in creating alternative methods to improve patient flow.[4] The results of these studies prove that implementation of an AI-based model in daily medicine has helped improve patient experience and minimize hospital burden.

The implementation of AI in place of traditional methods, helps enhance patient satisfaction by not only significantly reducing waiting time but also ensuring that patients receive care appropriate to their condition. Moreover, it helps reduce, the workload on the physician and enables them to focus more on the patient.

Being a new concept in healthcare AI may not be free of error. This might lead to inaccuracies in medication prescription, investigations, imaging, scheduling of appointments and diagnosis in atypical cases. Patient confidentiality is also an extremely important aspect of healthcare and in an attempt to protect the privacy of the patients, AI models may not have free reign over the patients' data which may prevent them from assisting in medical practices. Furthermore, there are no organizations that customize the AI models according to the needs of the individual hospital or clinic. Moreover, human interaction is a critical aspect of healthcare which would be significantly impacted by the use of AI which could result in patients being unable to express themselves or feeling a sense of apathy. Furthermore, developing countries are not well equipped to implement AI in daily practice, hence it would not be a practical solution for them.[5]

Further research needs to be conducted with regards to the use of AI models in hospitals to understand how they impact patient wait times and satisfaction, alongside their ability to optimize healthcare.

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