Chapter 2
Enhancing Patients' E-Health Engagement Through Artificial Intelligence

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ABSTRACT

The burgeoning interest in AI within medical research has sparked significant attention, particularly its integration into healthcare services. Despite advancements in AI-assisted healthcare, its practical implementation and impact on patients have been somewhat constrained. The current study investigated the interplay between patients' knowledge of AI, their perceptions of its usefulness and ease of use, attitudes towards AI systems, and their engagement with e-health platforms. Though AI assisted in terms of Medicare facilities, the applicability from patients' perspective is limited. The present research aimed to measure the relationship between patients' AI knowledge, perceived usefulness, perceived ease of use, attitudes towards AI systems, and e-health engagement. The explanatory research method has been adopted for

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current research work. The research was conducted on 417 patients using AI-based healthcare apps. The study provides several theoretical and practical implications in terms of utilizing AI in the healthcare sector to ensure patients' well-being and health engagement.

INTRODUCTION

Against this evanescent, cutting-edge landscape of healthcare, the adoption of Artificial Intelligence (AI) represents a potentially fertile territory for deepening patient engagement and boosting outcomes in health. Most opportunities among them face various types of impediments in a country like India, which happens to be the largest population with diversified health needs and, secondly, a fast-growing country in the adoption of AI technologies (Santosh and Gaur, 2022). There is, therefore, a very strong need to better appreciate how AI may be perceived, evaluated, and disposed of acceptance, with due regard to pragmatic definition in caching the dream for productive engagement of patients in e-health solutions to attract their support (Sawesi et al., 2016).

How increased AI use allowed possibilities to be opened up across echo realms, which may be utilizable by the health sector. Added to this work comes the understanding of the perception and engagement of AI technologies in India by the patients, as mentioned before. An imminent radical departure in healthcare provision as a result of AI is fundamentally substantiated by the level to which patients are involved with and accept the technologies themselves (Hoseini 2023). However, studies to date that have been conducted provide meagre empirical evidence of a link between patients' perceived usefulness and ease of use toward AI, and awareness of AI as compared to attitude toward the detailed implementations of AI for health interventions in health settings. This has to be realized and rectified so that proper strategies can be made to deploy AI in helping patients in health outcomes and enhancing participation in e-health in India. A human centred AI is the need of this hour (Grover, Balusamy, Anand & Milanova, 2024).

The paper uses technology acceptance model to relate the patients' knowledge in AI to their perception of the usefulness and simplicity in the application of AI; attitude towards using AI; as well as the actual performance in eHealth engagement. In technology acceptance of individuals, one of the choices among the theories to use in the analysis is Technology Acceptance Model (TAM). Attitudes and intention toward technology adoption are expected to depend strongly on how the user perceives the technology's usefulness and ease of use (Davis, 1989). On the other hand, the line of academic literature with direct relation to increases in the use of