Augmenting Mental Health Treatment with AI Chatbots

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The rise of AI-based digital chatbots in recent years has opened new frontiers in the fields of telemedicine and digital health delivery. These technologies, which use Natural Language Processing (NLP) to emulate genuine human conversation, may provide a valuable resource for healthcare providers aiming to expand patient accessibility. One potentially valuable application of this burgeoning technology is in the mental health field, where AI chatbots may effectively supplement psychological care to augment therapeutic services in a digital format. While AI chatbots may complement mental health services and improve access to care, there are legitimate concerns surrounding data security, patient privacy, and the ability of NLP-based technologies to simulate genuine emotional connection effectively.

As diagnoses for various mood and personality disorders have skyrocketed in recent years, especially in young adults and adolescents, the need for accessible, specific, and safe treatment options has become paramount. Morrison and Cody (2022) note that from 2009 to 2019, the rates of "persistent feelings of sadness or hopelessness increased from 26% to 37%... and suicidal behaviors among high school students also increased 44%." The authors go on to note that this increase in diagnoses comes with significant economic burdens on families and communities, with the average cost for publicly funded outpatient mental health services costing over $2,600. This demographic may be particularly receptive to and could significantly benefit from a readily accessible and cost-efficient solution like AI-based mental health services.

Although promising, AI chatbots come with significant moral, ethical, and safety concerns, especially when targeting a younger demographic. How can providers ensure these generative AI-based tools deliver safe and optimal responses and avoid misguided or harmful advice (Li et Al., (2023)? Additionally, how can AI-based health delivery applications ensure that user data is secure

and private? According to Haque and Rubya (2023), as AI chatbots are integrated into various mental health applications, the risk of data leaks and other privacy violations is compounded by the increased need for data sharing between providers.

This paper aims to examine the evidence surrounding AI chatbots in mental health applications and determine the viability of such tools in a rapidly digitalizing industry. Moreover, this paper will review the effectiveness of these technologies in providing empathetic and evidence-based responses to challenging prompts, the acceptance of these tools by patients, and the challenges faced by application developers to ensure safety, privacy, and high-quality mental health care delivery.

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