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Do AI chatbots used for Alzheimer's disease patients risk worsening psychosis?

BOR LUEN TANG

The advent of artificial intelligence (AI) tools and agents have revolutionised medicine and healthcare. Patients and caregivers of Alzheimer's disease (AD), as well as numerous other aging-related neurodegenerative diseases, could benefit from various AI-enabled technological advancements pertaining to disease modelling, drug discovery, data processing and patient support. With regards to the latter, generative AI-based chatbots have been touted, and indeed adapted and marketed as AD apps, to provide disease progression monitoring, cognitive training, companionship and conversational support to lighten the burden of human caregivers [1]. Such AI apps are generally perceived to be non-invasive and thus carry fewer risks for patients. However, generative AI chatbots are nonetheless *cognitively invasive,* and as such do carry unseen risks that need to be addressed.

It is well-known that AD (like numerous other aging-related neurodegenerative diseases) often presents neuropsychiatric symptoms, such as anxiety, depression, apathy, agitation, aggression, and psychosis [2-3]. Some of these symptoms are direct consequences of neuronal impairments and neural network disruptions due to disease pathology, while others are likely psychopathological responses to one's depressive feeling of progressive impairment of critical cognitive agencies, such as memory and independence. Neuropsychiatric impediments or psychosis in AD could be manifested in various delusional behaviours, with potentially dire consequences of added burden to caregivers, harm to others, or even suicide.

A worrying emerging development in AI chatbot use is AI-induced psychosis [4] — the development or exacerbation of reality detachment, delusions, and paranoia after prolonged interaction with conversational AI chatbots. Particularly susceptible are individuals with some pre-existing mental health conditions, those experiencing social isolation, or with a tendency to obsessive behaviour. AI psychosis appears to involve a psychological feedback loop where AI sycophancy (a tendency for a chatbot to agree with its user) strengthens the AI user's delusions [5]. Some scholars have opined that AI-induced delusions and psychosis would most affect those prone to mental disorders [6-7]. Viewed together with AD-associated psychosis, one cannot help but ask whether extensive use of AI chatbots by AD patients might either trigger or worsen their impending psychosis?

Some might argue that such worries are unfounded. AI-induced psychosis has thus far been mainly observed in adolescents [8], but AD patients are usually the elderly who in their more advanced disease state are unlikely to have prolonged and extensive interaction with AI chatbots. However, if adolescents are vulnerable to cognitive invasion, the cognitively impaired elderly are even more so. Elderly individuals are increasingly turning to AI chatbots for companionship [9], so much so that even their children become aware of their inattention towards them. A survey of 21,000 US-based participants indicated that "Among individuals aged 45 to 64, the odds of reporting at least moderate depression were 50% greater for daily AI users ..." [10]. It is likely that most interactions between an individual and AI chatbots would occur at the initial or the mild-cognitive impairment stage. However, this is exactly when the delusion and psychosis could be induced by interaction with AI. Furthermore, let us not forget that suicidal ideation and actions are often highest during the early stages of AD.

The potential causative interaction between AI chatbot use and AD-associated psychosis should thus be addressed promptly and not be overlooked like an elephant in the room.

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Superficial knowledge acquisition in the digital era: A call to re-embrace books

LOKESH RANA, POOJA GURNAL

Over the past decade, academia has undergone a significant transformation in the manner in which knowledge is accessed, acquired and disseminated. Digital platforms, online resources and virtual learning tools and platforms have undoubtedly democratised education, improved accessibility and enabled rapid updates, along with facilitating learning across geographical and socioeconomic boundaries. These developments have brought substantial benefits to students and professionals alike [1,2].

However, all these developments come with caveats; the overwhelming reliance on digital modes of acquiring knowledge has led to unintended academic consequences. Students increasingly rely on online summaries, short-form content and algorithm-driven platforms for rapid consumption of information [2,3]. Though efficient, such learning is often superficial, fragmented, short-lived and offers little conceptual clarity, critical reasoning or long-lasting retention. This results in a growing disconnect between information acquisition and true understanding, thus posing a serious challenge to the future of academia, research and professional competence [2].

Books have represented the cornerstone of rigorous scholarship as they provide coherence, depth, continuity and a disciplined progression of thought, thus providing an essential contribution towards building a foundation across disciplines. The decimation of standard textbooks reflects not merely a change in medium but rather a deeper shift in academic culture, where convenience and immediacy increasingly replace mastery and reflection [3,4,5].

Recognising this serious concern, the Department of Radiology, All India Institute of Medical Sciences (AIIMS) Bilaspur, has initiated a structured "Back to Books" academic programme. This initiative emphasises compulsory textbook reading, guided chapter-based classroom discussions with structured assessments aligned closely with authoritative book content. The objective behind this initiative is not to reject digital learning but to establish a balance by reaffirming the primacy of foundational knowledge acquisition through books, completed and not replaced by digital resources.

This letter is a call to the wider academic community, across medicine and beyond, to reflect critically on current pedagogical trajectories. Digital technology should enhance learning, not dilute it. The reinstatement of book-based scholarship is not a mere exercise in nostalgia but a necessary step towards preserving academic rigor, intellectual depth and the quality of future professionals. A renewed commitment to books, alongside judicious use of digital tools, may offer the most sustainable path forward for contemporary education.

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