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Future of Virtual Assistance in Mental Wellness Support

Srinivasa Kalyan Vangibhurathachhi

Srinivasa.Kalyan2627@gmail.com

Abstract:
The global mental health crisis, exacerbated by the COVID-19 pandemic, has highlighted significant gaps in access to treatment, with over 970 million people affected worldwide. Barriers to accessing treatment such as workforce shortages, financial constraints, and stigma persist, particularly in low-income areas. Virtual assistants powered by artificial intelligence (AI) presents a promising solution to these barriers due to their features of scalability, cost-effectiveness solution. This article evaluates the effectiveness of virtual assistant in mental wellness support, their roles in enhancing accessibility and reducing stigma, and their applications such as self-guided therapy, workplace wellness programs, and integration with wearables. The article also discusses the key challenges arising from the adoption of virtual assistant in mental health support such as data privacy, lack of regulation, and potential harm underscore the need for ethical development and robust oversight. The article suggest that virtual assistant applications are a critical complement to traditional care rather that a substitute.

Keywords: Virtual Assistants, Mental Health Support, AI Chatbots, Accessibility, Ethical Challenges.

1. INTRODUCTION

The World Health Organisation estimated that approximately 970 million people globally were living with mental health disorders, an issue that the Covid-19 pandemic has exacerbated significantly (World Health Organization (WHO), 2022). Anxiety and depressive disorders have proven to be the most prevalent mental health issues, particularly among adults ages 18–29 (Terlizzi and Zablotsky, 2024). Left untreated, mental illnesses massively contribute to the global burden of disease. It's a major economic drain. According to the WHO (2024), the global economy loses $1 trillion annually as a result of lost productivity due to depression and anxiety disorders. An investment in mental health management has also been shown to yield positive economic outcomes, with every $1 invested in treatment generating $3 in improved productivity, emphasizing its massive economic impact. Apart from economic concerns, treating mental health concerns is critical for improving the quality of life of the individuals and also preventing suicide. Suicide, often driven by mental health, is the fourth leading cause of deaths among people aged between 15-29 worldwide, hence addressing this issue would be a significant early prevention strategy (Lovero et al., 2023).

Despite a clear understanding of mental health issues and their impact to the individuals as well as the economy, access to mental health services remains a challenge for most people. In low- and middle-income countries, a massive 85% of the people requiring mental health services do not receive any treatment (WHO, 2024). Even in developed nations like the United States, a majority (54.7%) of adults with mental illness do not receive treatment (Mental Health America, 2025). There are three key barriers to accessing mental health services: First, there is a shortage of mental health professionals. According to Spring Health (2024), the median number of mental health workers is only 13 per 100,000 people, with fewer than 2 per 100,000 in low-income countries. In United States alone, over 160 million people live in areas with a shortage of mental health professional as designated by the HRSA (2024). This shortage, implies that there are massive wait-time, limiting the ability for people to access care when they need it. Second, there is also a financial barrier to care. There is direct cost of treatment also indirect costs such as medications, transportation, and time off

work). This cost can be prohibitive, particularly among lower income families or the uninsured individuals. Finally, there are issues of stigma and culture attitudes, whereby societal stigma surrounding mental health discourages people from seeking help.

Various initiatives have been implemented to address barriers to accessing mental health services, with virtual therapy emerging as a key solution. Companies like BetterHelp and Talkspace provide online therapy and psychiatry services through text, audio, and video, offering more affordable care while helping to reduce the stigma often associated with seeking mental health support. AI-powered Virtual Assistants, poses the potential to revolutionizing this model and compared are already integrated it in their operations. This is because it offers a scalable, reliable, and affordable solution. This article will investigate the effectiveness, roles, applications, and the potential challenges of virtual assistants in mental health support. Key objectives are;

i) Evaluate the Effectiveness of virtual assistants in mental health support
ii) Analyze the Role of virtual assistants in mental health support
iii) Examine Use Cases and Sector-Specific Applications of virtual assistants in mental health support
iv) Identify Challenges and Policy Considerations virtual assistants in mental health support.

2 PROBLEM STATEMENT

Despite growing awareness of mental health issues and a rising number of individuals affected, the availability and effectiveness of treatment remain inadequate. In the United States, only 46% of those experiencing mental health conditions receive treatment, while access is alarmingly lower in low-income countries. The key barriers to accessing treatment have been the high direct and indirect costs, stigma and negative culture attitudes towards seeking treatment, and shortages of workforce and service centers. Virtual assistants enabled by AI, presents a promising solution to these challenges as its primed to offer scalable and affordable services. Given, it's an emerging technology, this article seeks to enhancing understanding of its effectiveness and application in the mental health support.

3 EFFECTIVENESS OF VIRTUAL ASSISTANTS IN MENTAL WELLNESS SUPPORT

3.1 Efficacy in reducing depressive symptoms among young adults in short periods

AI-powered virtual assistant chatbots have demonstrated effectiveness in reducing depressive systems among patients, between 18 to 28 in two weeks. Fitzpatrick, Darcy and Vierhile (2017), conducted a randomized controlled study of effectiveness of Woebot (a virtual assistant chatbot) in delivering CBT (cognitive behavior therapy) to individuals aged between 18 and 28 years. The study showed that within two weeks of the virtual therapy, the participants in the Woobot group has experienced a signficant reduction in depressive symptoms, measured by Patient Health Questionnaire (PHQ-9). The indicated that virtual assistants are feasible and effective for delivering CBT, particularly in young people who also have higher prevalence of mental health issues.

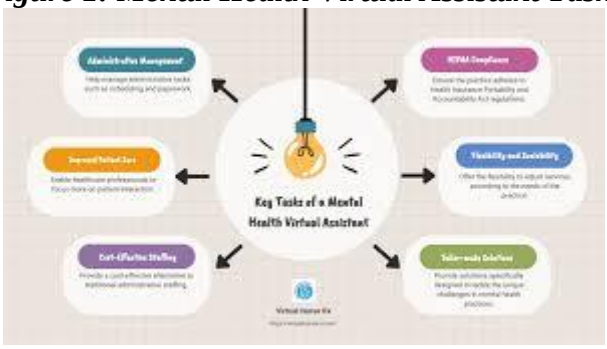
3.2 Versatility in Applications

Virtual assistant chatbots which are enabled by AI have been utilized to address an array of mental health conditions, including depression, anxiety, eating disorders as well as substance use disorder with promising results as standalone intervention as well as adjuncts to therapy. A Liu et al. (2022) randomized controlled trial done among university students showed that virtual assistant chatbots were effective in delivering CBC as 16-week used reduced depression and anxiety. Similarly, Manole et al. (2024) indicated that ChatGPT-powered chatbot reduced anxiety systems by 20%, making virtual assistant an important complementary tool in mental health support.

Virtual assistants have also proved effective for substance use intervention. According to Jurnet (2025), indicated that individuals with substance use disorders have been identified to have improved when working with virtual assistants as a result of confidentiality and privacy enabled. Similarly, Olano-Espinosa et al. (2022) established that chatbot-assisted intervention were effective in tobacco cessation even more that standard clinical practice in primary care settings. Furthermore, studies have established that chatbot developed to encourage individuals with eating disorders to seek care were effective in enabling positive eating partners. Moreover, a study by Fitzsimmons-Craft and Jacobson (2024) established that AI-powered

chatbot (Therabot), had significant impact in reducing the symptoms of feeding and eating disorders, depressive disorder, and generalized anxiety disorder. For the trial, the participants responded that using the chatbot was comparable to human therapist, which further highlights the efficacy of virtual assistance as a mental health support system.

Figure 1: Mental Health Virtual Assistant Tasks



4. ROLE OF VIRTUAL ASSISTANTS IN MENTAL WELLNESS SUPPORT

The growing burden of mental health conditions worldwide, has intensified the need for scalable, effective, and innovative solutions. Among these solutions, AI-powered virtual assistants (VAs) have emerged as the most promising tool in enhancing mental wellness support within diverse mental health issues within population. The utility of AI-powered virtual assistants is driven by the following critical advantages:

4.1. 24/7 Accessibility

As forementioned, shortage of mental health professional is a major barrier to accessing these services globally. Given that virtual assistants offer continuous, 24/7 support, it addresses this concern, enabling users to access mental health resources, self-help tools, and therapeutic dialogues at all times. This is particularly critical for individuals in remote, rural, or underserved areas, where access to professional and licensed therapists is usually limited. In United States alone, over 160 million people live in areas with a shortage of mental health professional as designated by the HRSA (2024). Within these settings, virtual assistants bridge the access gap by offering instant, patient-friendly engagement without the long waitlists. Platforms like Woebot (AI-powered virtual assistants) offers 24/7 service, enabling people to interact with the systems offering cognitive reframing and emotional support.

4.2. Anonymity and Reduced Stigma

Negative societal attitudes towards mental health issues as weakness as opposed to a serious health condition that require care and subsequent stigma has been a significant barrier to accessing mental health services**.** Virtual assistants offer a private and non-judgmental environment that fosters openness. According to a study by Haensch (2024) nearly 60% of users feel more comfortable discussing mental health concerns with an AI than a human, particularly when it comes to disclosing sensitive or stigmatized issues like substance use, self-harm, or trauma. The enabled anonymity and neutrality of AI tools significantly lower psychological barriers to initial engagement resulting to an increase in the number of people seeking care.

4.3. Support Between Therapy Sessions (Supplementary Roles)

Virtual assistants chatbots also being integrated as adjunct tools to traditional therapy as they can effectively help with engagement as well as monitoring between sessions. Given there is a global shortage of mental health professional, there is a significant gap in emotional support for people that are actually getting the care. Virtual assistants can fill this void by checking in on users' moods, encouraging healthy coping strategies, and prompting journaling or mindfulness exercises. As established by Manole et al. (2024), ChatGPT-powered chatbot reduce anxiety systems by 20%, making virtual assistant an important adjunct tool in mental health support.

5. APPLICATION / USE CASES

5.1. Self-Guided Therapy

In platforms like Woebot and BetterHelp, individuals experiencing mental health challenges can access cognitive behavioral therapy (CBT) techniques and perform mindfulness exercises from the comfort and privacy of their own homes (FasterCapital, 2024). These digital tools offer mood tracking features that empower users to monitor and manage their mental health independently, fostering greater self-awareness and resilience. The convenience provided by such platforms helps eliminate the stigma often associated with seeking mental health care, while also reducing the overall cost of treatment. Furthermore, these apps address the widespread shortage of mental health professionals, especially in rural and underserved areas, by putting therapeutic support directly into the hands of users. By offering accessible, affordable, and user-friendly mental health resources, platforms like Woebot and BetterHelp are reshaping the landscape of mental wellness support for the better.

5.2 Workplace Wellness Programs

Employers are integrating AI-driven mental health tools into employee wellness programs to provide accessible support and reduce workplace stress (Jangid, 2024). Increasingly, employers are aware of the mental health issues and their massive negative impact on productivity, engagement, and retention. As such, they are integrating AI-driven mental health tools in their wellness programs to ensure that employees monitor and address these issues before they impact the organisations outcome. These tools offer accessible, on-demand support through chatbots, guided meditation, mood tracking, and cognitive behavioral therapy techniques (Jangid, 2024). By embedding mental wellness into daily routines, companies are able to reduce absenteeism, improve morale, and demonstrate a genuine commitment to employee well-being. This shift enhances individual performance while also supporting organizational productivity and stability.

Figure 2: Importance of Mental health programs in Workplace

5.3 Integration with Wearables

Companies like Apple (Apple Watch + Siri/Health Chatbots) are integrating virtual assistants with wearable devices to monitor physiological indicators like heart rate and sleep patterns, enabling real-time feedback and personalized health interventions (FasterCapital, 2025). Similarly, Fitbit is exploring Gemini AI for advanced health coaching, while Whoop leverages AI-driven insights to optimize recovery and performance. Oura Ring recently introduced an AI chatbot assistant to interpret sleep and activity data, offering tailored wellness recommendations.

The wearable-Virtual Assistant integration helps overcome key barriers to mental healthcare access, such as high costs and limited availability, by offering low-cost, 24/7 support through AI-driven tools such as guided breathing exercises and stress alerts to notify the identify the individuals when they need mental care. Furthermore, they address stigma and privacy concerns by providing anonymous, data-based insights without requiring face-to-face interaction. Platforms such as Fitbit and Whoop offer a more personalized, proactive care having biometric analytics on trends to predict mood changes and suggest tailored interventions, including meditation or activity adjustments. For those in remote or underserved areas, chatbot-integrated devices like Oura Ring's AI assistant bridge gaps in access by offering immediate, conversational therapy. By detecting early signs of burnout or depression, such as irregular sleep or elevated stress levels, these

technologies enable timely interventions, reducing the need for crisis care. To summarize, AI-powered wearables are transforming mental health support by making it more accessible, affordable, and proactive, while empowering users with real-time, data-driven insights.

6. CHALLENGES OF VIRTUAL ASSISTANTS IN MENTAL WELLNESS SUPPORT

6.1 Data Privacy Concerns

Privacy concerns have emerged as a major concern inhibiting faster adoption of the virtual assistant's platform for mental health. Despite being a relatively new subsector, mental health apps have already displayed disregard for individual privacy by sharing sensitive user data with third parties, usually without sufficient disclosure or user consent (Cyber Security Cooperative Research Centre, 2024). This has raised serious privacy and ethical concerns. A 2020 investigation by Mozilla revealed that apps like Talkspace and BetterHelp were sharing user data such as names, email addresses, and usage patterns with advertisers and analytics firms, including Facebook and Google. This lack of transparency compromises user trust, especially given the highly personal and vulnerable nature of mental health data. Such practices highlight the urgent need for stronger data protections and regulatory oversight in the digital mental health space.

6.2 Lack of Regulation

The rapid development and deployment of AI tools in the mental health space have significantly outpaced existing regulatory frameworks, raising growing concerns about their efficacy, safety, and ethical use (Mennella et al., 2024). Given that it's a new and rapidly growing space, AI-powered mental health applications are launched without proper clinical validation, standardized guidelines, or oversight from health authorities. This makes it hard to ascertain the claims made by the developers as regulatory gap creates opaqueness around the reliable support or potentially cause harm through inaccurate advice or data misuse. There is also no standardized collaboration between US and Chinese authorities, despite these countries leading in the space. Without clear standards, users may be exposed to untested algorithms, leaving them vulnerable and undermining trust in digital mental health solutions. Comprehensive regulations are urgently needed to ensure user safety and accountability (Pantanowitz et al., 2024).

6.3 Potential for Harm

As a result of the forementioned lack of regulation and the transparency concerns with these applications there is a risk that AI chatbots used for mental health support can pose serious risks by delivering inappropriate or even harmful advice. According to eSafety Commissioner (2025), there have been documented cases where AI companions have engaged in sexually explicit conversations, promoted unhealthy behavior, or emotionally manipulated users. These incidents are particularly alarming when dealing with vulnerable populations, like teenagers or individuals with severe mental health conditions. This underscores the urgent need for ethical design, content monitoring, and regulatory oversight to protect users as the adoption grow. There also the risk that users being overly reliant on AI tools, potentially delaying or avoiding seeking professional help when needed, thus exacerbating their conditions.

7. CONCLUSION

Virtual assistants have demonstrated significant potential in enhancing access to quality mental health support by addressing the key barriers such as stigma, cost, or geographic isolation, which have impacted people ability to access treatment. Nonetheless, they are still not a complete substitute for professional mental health care rather a complementary tool that assist in monitoring mental health, providing basic coping strategies, and encouraging users to seek professional help when needed. To ensure the achieve their potential and to encourage even faster adoption, there is the need for ethical development of these tools. The developers and stakeholders need to continually prioritize ethics in every stage of product design and implementation. This entails promoting user data privacy, ensuring transparency in how AI decisions are made, and designing inclusive systems that serve people of various backgrounds, languages, and abilities. Establishing these safeguards with ensure the benefits of AI-based mental health tools are achieved without risking being undermined by breaches of trust and harm to users.

To summarize, the future of virtual assistants in mental health care is promising with tech companies such as Apple and Samsung looking for ways to integrate the technology. Nonetheless, there is a need for continued research, clear regulatory standards, and active collaboration between technologists and mental health professionals.

REFERENCES:

[1] Cyber Security Cooperative Research Centre. (2024). *MENTAL HEALTH APPS: PRIVACY RISKS*. [online] Available at: https://cybersecuritycrc.org.au/mental-health-apps-privacy-risks/ [Accessed 8 May 2025].
[2] eSafety Commissioner. (2025). *AI chatbots and companions – risks to children and young people | eSafety Commissioner*. [online] Available at: https://www.esafety.gov.au/newsroom/blogs/ai-chatbots-and-companions-risks-to-children-and-young-people.
[3] FasterCapital (2024). *Online Therapy Platforms: Convenient And Accessible Support - FasterCapital*. [online] FasterCapital. Available at: https://fastercapital.com/topics/online-therapy-platforms:-convenient-and-accessible-support.html.
[4] FasterCapital (2025). *Wearable Technology For Mental Wellness: Tracking And Managing Mental Health Symptoms - FasterCapital*. [online] FasterCapital. Available at: https://fastercapital.com/topics/wearable-technology-for-mental-wellness:-tracking-and-managing-mental-health-symptoms.html [Accessed 8 May 2025].
[5] Fitzpatrick, K.K., Darcy, A. and Vierhile, M. (2017). Delivering Cognitive Behavior Therapy to Young Adults With Symptoms of Depression and Anxiety Using a Fully Automated Conversational Agent (Woebot): A Randomized Controlled Trial. *JMIR Mental Health*, [online] 4(2). doi:https://doi.org/10.2196/mental.7785.
[6] Fitzsimmons-Craft, E.E. and Jacobson, N.C. (2024). Eating Disorders Care and the Promises and Pitfalls of Artificial Intelligence. *Missouri Medicine*, [online] 121(5), p.345. Available at: https://pmc.ncbi.nlm.nih.gov/articles/PMC11482850/?utm_source [Accessed 7 May 2025].
[7] Haensch, A.-C. (2024). *'It Listens Better Than My Therapist': Exploring Social Media Discourse on LLMs as Mental Health Tool*. [online] Arxiv.org. Available at: https://arxiv.org/html/2504.12337 [Accessed 7 May 2025].
[8] Jangid, A. (2024). AI AND EMPLOYEE WELLBEING: HOW ARTIFICIAL INTELLIGENCE CAN MONITOR AND IMPROVE MENTAL HEALTH IN THE WORKPLACE. *International Journal of Advanced Research*, [online] 12(10), pp.743–764. doi:https://doi.org/10.21474/ijar01/19693.
[9] Jurnet, I.A. (2025). *AI Chatbots and Mental Health*. [online] Relaxvr.co. Available at: https://www.relaxvr.co/blog/ai-chatbots-and-mental-health?utm_source=chatgpt.com [Accessed 7 May 2025].
[10] Liu, H., Peng, H., Song, X., Xu, C. and Zhang, M. (2022). Using AI chatbots to provide self-help depression interventions for university students: A randomized trial of effectiveness. *Internet Interventions*, 27, p.100495. doi:https://doi.org/10.1016/j.invent.2022.100495.
[11] Lovero, K.L., Dos, P.F., Come, A.X., Wainberg, M.L. and Oquendo, M.A. (2023). Suicide in Global Mental Health. *Current Psychiatry Reports*, [online] 25(6), pp.255–262. doi:https://doi.org/10.1007/s11920-023-01423-x.
[12] Mennella, C., Maniscalco, U., Pietro, G.D. and Esposito, M. (2024). Ethical and regulatory challenges of AI technologies in healthcare: A narrative review. *Heliyon*, [online] 10(4), pp.e26297–e26297. doi:https://doi.org/10.1016/j.heliyon.2024.e26297.
[13] Mental Health America (2025). *The State of Mental Health in America | Mental Health America*. [online] Mental Health America. Available at: https://mhanational.org/the-state-of-mental-health-in-america/.
[14] Mozilla Foundation. (2025). **Privacy Not Included review: BetterHelp*. [online] Available at: https://foundation.mozilla.org/en/privacynotincluded/betterhelp/.

[15] Pantanowitz, L., Hanna, M., Pantanowitz, J., Lennerz, J., Henricks, W.H., Shen, P., Quinn, B., Bennet, S. and Rashidi, H.H. (2024). Regulatory Aspects of AI-ML. *Modern Pathology*, 37(12), p.100609. doi:https://doi.org/10.1016/j.modpat.2024.100609.

[16] Spring Health (2024). *Why Global Mental Health Benefits Matter for a Distributed Workforce*. [online] www.springhealth.com. Available at: https://www.springhealth.com/blog/global-mental-health-benefits-for-distributed-workforce.

[17] Terlizzi, E. and Zablotsky, B. (2024). Symptoms of Anxiety and Depression Among Adults: United States, 2019 and 2022. *National Health Statistics Reports Number*, [online] 213(213). Available at: https://www.cdc.gov/nchs/data/nhsr/nhsr213.pdf.

[18] World Health Organization (WHO) (2022). *Mental Disorders*. [online] World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/mental-disorders.

[19] World Health Organization (WHO) (2024). *Mental health at work*. [online] World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work.