Original Article

Mental Health Professionals' Perspectives on Artificial Intelligence in Mental Health Services: A Cross-Sectional Study in Pakistan

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Abstract

Background: Artificial Intelligence (AI) presents a promising avenue to address mental health challenges in lower-middle-income countries like Pakistan, where stigma, limited access, and workforce shortages persist. Despite its potential to enhance service delivery and reduce clinician burden, little is known about mental health professionals' (MHPs) perspectives on AI integration.

Objective: To assess the awareness, perceptions, and concerns of MHPs in Pakistan regarding the use of AI in mental health services.

Methods: A descriptive, cross-sectional survey was conducted among MHPs across Pakistan, following ethical approval from the Institutional Review Board of King Edward Medical University, Lahore. Data were collected between a month after IRB approval, using a structured, self-administered online questionnaire covering demographics, AI familiarity, perceived benefits, ethical concerns, and readiness to adopt AI. A total of 125 responses were gathered through convenience and snowball sampling. Descriptive statistics were analyzed using SPSS.

Results: The majority of respondents were female (78%), aged 18–30 years (58%), and primarily from Punjab. Doctors comprised 51% of the sample. While 73.6% were familiar with AI, only 5.6% had any formal training related to AI. Chatbots were the most recognized tool (67%). Perceived benefits included workload reduction (62.4%) and improved access (60.8%), though concerns about ethics (64%) and diagnostic accuracy (63.2%) were prevalent. Most (53.6%) supported AI use only with human oversight. High interest was observed in AI use for personal well-being (87%) and workplace tasks (69%).

Conclusion: MHPs in Pakistan express cautious optimism toward AI in mental health, emphasizing the need for training, ethical safeguards, and regulatory support.

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Introduction

Artificial Intelligence (AI) is increasingly recognized as a transformative force in healthcare, with growing applications in mental health for diagnostic support, treatment planning,

therapeutic interventions, and patient monitoring.[1] From chatbots delivering cognitive behavioral therapy to predictive algorithms identifying early signs of psychiatric disorders, AI technologies offer the promise of enhanced accessibility, efficiency, and personalization in mental health care.[2,3]

Despite rapid technological advancements, mental health services remain under-resourced, reactive, and difficult to access particularly in low- and middle-income countries.[4] In Pakistan, systemic barriers such as a shortage of trained professionals, social stigma, and geographic disparities in service availability exacerbate the mental health treatment gap.[5] The COVID-19 pandemic catalyzed a broader acceptance of digital tools in healthcare globally, accelerating interest in AI-powered solutions in South Asia as well.[6] However, the integration of AI into mental health care raises critical concerns related to clinical validity, data privacy, algorithmic bias, and the preservation of therapeutic relationships.[7]

Although regional and global research indicates cautious optimism among mental health professionals (MHPs) regarding AI,[8,9] evidences from Pakistan is scarce. Understanding local practitioners' perceptions is essential to inform culturally and ethically appropriate adoption of AI technologies.

This study aims to assess the awareness, attitudes, perceived benefits, and concerns of mental health professionals in Pakistan regarding the use of AI in clinical mental health settings. The primary objective is to evaluate their readiness to adopt AI tools, while secondary objectives include identifying perceived barriers, ethical considerations, and training needs. These insights will guide the development of context-sensitive, clinician-informed AI strategies for mental health care delivery in Pakistan.

Methods

This study employed a descriptive, cross-sectional survey design to assess the perspectives of mental health professionals in Pakistan regarding the implementation and use of artificial intelligence (AI) in mental health care services. The research was conducted in accordance with ethical standards and received approval from the Institutional Review Board (IRB) of King Edward Medical University, Lahore, (361/RC/KEMU) Data collection took place over a month ,20th April,2025 till 20th May,2025.

A structured, self-administered questionnaire was developed in English, based on a comprehensive review of existing literature on the application of AI in healthcare, with particular emphasis on mental health settings. The questionnaire comprised both closed-ended and Likert-scale questions and was organized into five main sections: (1) demographic information; (2) awareness and familiarity with AI tools relevant to mental health; (3) perceived benefits and clinical utility of AI in mental health practice; (4) ethical, legal, and professional concerns surrounding AI implementation; and (5) willingness and readiness to adopt AI in personal wellness and work place. The AI Attitude Scale[10] was used to determine participant's views on AI's impact on life, work, future use and societal benefits.

The questionnaire was hosted on Google Forms and disseminated electronically by the authors. Participation was voluntary, and the target population included mental health professionals actively working in Psychiatry departments across both public and private healthcare institutions in Pakistan. Eligible participants included Psychiatrists, postgraduate psychiatry residents, clinical psychologists, speech and language pathologists, and psychiatric nurses. Prior to accessing the survey, participants were required to read an informed consent statement and confirm their agreement to participate. Anonymity and confidentiality of all responses were strictly maintained, and no personally identifiable information was collected.

A total of 125 complete responses were received. The sample was recruited using non-probability sampling methods, including convenience sampling and snowball sampling. These approaches were deemed appropriate given the exploratory nature of the study and the relatively limited size of the mental health professional community in Pakistan. The data obtained from the survey were subsequently analyzed to identify trends, attitudes, and concerns related to the adoption of AI technologies in mental health services.

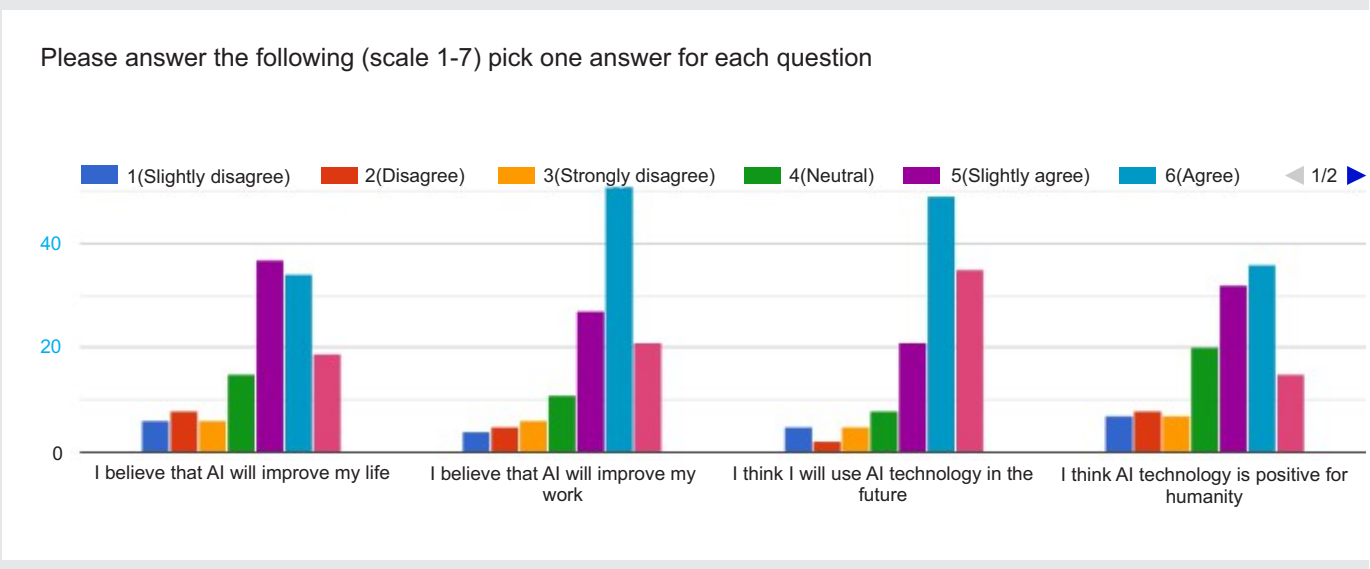

Figure 1: *Participants responses to the AI attitudes scale. (1=not at all; 7=completely agree)*

Results

The final sample consisted of 125 mental health professionals (MHPs), predominantly from Punjab. The majority of respondents were aged between 18 and 30 years (72/125; 58%), and most identified as female (98/125; 78%). Among participants, doctors comprised the largest professional group (64/125; 51%), followed by clinical psychologists (30/125; 24%) and other allied professionals (31/125; 25%).

Regarding familiarity with artificial intelligence (AI), 92 respondents (73.6%) reported being familiar with AI applications in mental health care, and 84 (67.2%) had used AI-based tools in their practice. However, only 7 participants (5.6%) had received formal training on AI in mental health. Chatbots were the most commonly recognized or used AI tool (84/125; 67%), followed by AI-assisted diagnostics (38/125; 30%) and virtual therapists (33/125; 26%).

The AI Attitude Scale [10] assessed participant's agreement with five statements about AI's impact on life, work, future use, and societal benefit, using a 7-point Likert scale (1 = strongly disagree to 7 = completely agree). Responses were visually represented in Figure 1.

Among 125 respondents, 62.4% believed AI should be integrated into mental health care depending on the application, though 45.6% were unsure if it threatens professional roles. The most cited benefits were reduced workload (62.4%) and increased accessibility (60.8%), while top concerns included ethical implications (64%) and diagnostic accuracy (63.2%). A majority (53.6%) supported AI use only with human oversight, and most favored AI as a patient engagement (45.6%) or decision

Table 1: *Summary of questions regarding Perceptions, levels of perceived benefits & concerns regarding artificial intelligence (AI) use for mental health.*

Questions	Responses (Total 125)	Value N (%)
Do you feel AI threatens the role of mental health professionals?		
Yes	18	14.40%
No	50	40%
Unsure	57	45.60%
Should AI be integrated into routine mental health care?		
Yes	33	26.40%
No	14	11.20%
Depends on the application	78	62.40%
What potential benefits do you see in AI use for mental health care?		
Reduced workload	78	62.40%
Increased accessibility	76	60.80%
Cost-effectiveness	56	44.80%
Better patient monitoring	54	43.20%
Faster diagnosis	50	40%
Others	2	1.60%

Table 1: *Summary of questions regarding Perceptions, levels of perceived benefits & concerns regarding artificial intelligence (AI) use for mental health.*

Questions	Responses (Total 125)	Value N (%)
What concerns do you have regarding AI in mental health?		
Ethical implications	80	64%
Accuracy of AI diagnosis	79	63.20%
Data privacy	71	56.80%
Bias in AI models	62	49.60%
Dependence on technology	61	48.80%
Others	1	0.80%
Do you trust AI to make mental health-related decisions without human intervention?		
Yes	9	7.20%
No	49	39.20%
Only with human oversight	67	53.60%
How concerned are you about data security and confidentiality in AI-driven mental health tools?		
Not concerned	17	13.60%
Concerned	108	86.40%
Extremely concerned	0	0%
Do you believe AI could lead to biases in mental health diagnosis or treatment?		
Yes	70	56%
No	12	9.60%
Unsure	43	34.40%
How should AI be incorporated into mental health practice?		
As a decision support tool	52	41%
As a patient engagement tool	57	45.60%
In therapy and counseling	52	41%
Others	5	4%
Not at all	7	5.60%

support tool (41%). (Table 1)

Most participants showed a positive inclination toward using AI for their mental and emotional well-being. Nearly 87% expressed some level of interest, with the highest proportion (36.8%) being slightly interested. A smaller group (13.6%) reported no interest at all, indicating overall openness to AI-supported self-care tools. (Figure 2)

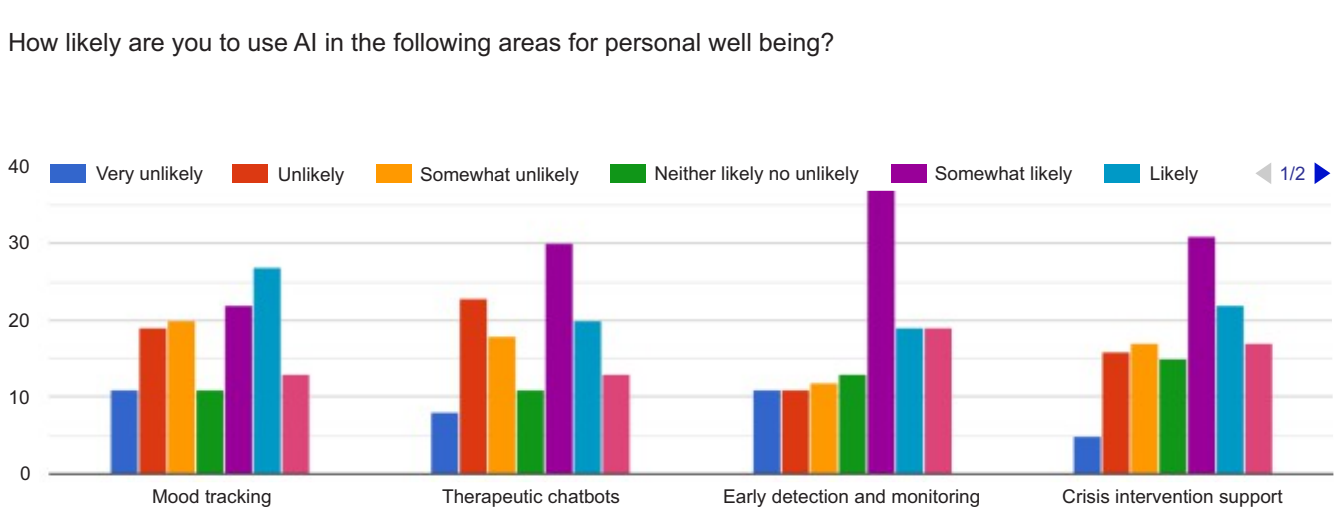

Figure 2: *Likelihood of respondents use of AI for Personal Well-being.*

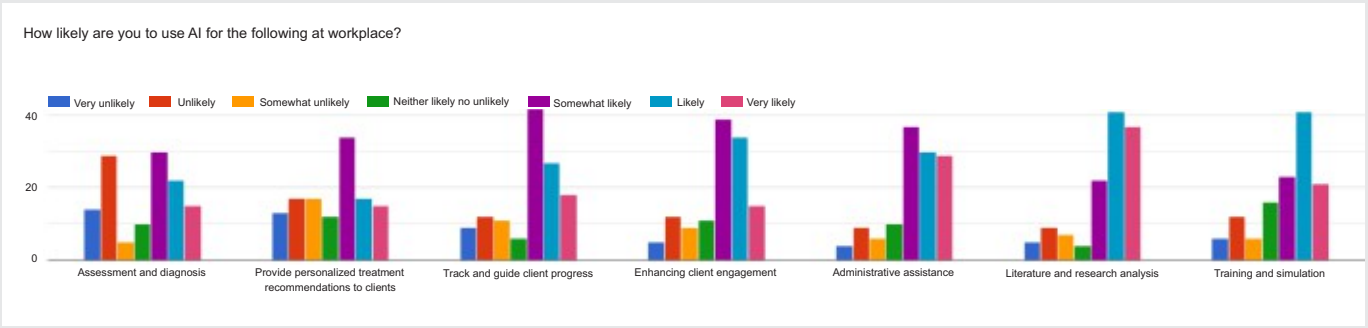

Figure 3: *Mental health professional interest in the use of artificial intelligence for different Tasks in Workplace.*

Most respondents showed moderate to high interest in using AI for professional tasks, with 68.8% expressing at least a "somewhat interested" level. Only 8% were not interested at all, indicating overall openness to AI integration in clinical roles. (Table 2)

Table 2: *Mental health professional interest in the use of artificial intelligence in Workplace*

Question	Total Responses	Value N(%)
How interested are you in using AI to assist with tasks in your role as a mental health professional?		
Not interested at all	10	8%
Slightly interested	29	23.20%
Somewhat interested	34	27.20%
Moderately interested	34	27.20%
Extremely interested	18	14.40%

Discussion

The impact of mental health conditions in lower-middle-income countries (LMICs) remains considerable due to insufficient healthcare infrastructure, a shortage of professionals, stigma, and socioeconomic obstacles.[4,11] Innovations like digital psychiatry, which include AI-driven tools, chatbots, telepsychiatry, and virtual reality, present the opportunity to tackle these issues through innovative approaches.[12] Evidence from South Asia indicates that AI has the potential to enhance healthcare accessibility, lighten clinician's workloads, decrease costs, and improve service efficiency in settings with limited resources.[13] AI technologies like Natural Language Processing, sentiment analysis, and data mining are proving effective in spreading accurate information, reducing stigma, and fostering mental health dialogue. This fusion of AI and mental health offers a powerful, innovative way to reshape public perception and conversation.[14] Nevertheless, effective implemen-tation relies on managing ethical risks, addressing algorithmic biases, protecting data privacy, and fostering cross-sector partnerships to create solutions that are inclusive and sensitive to context.[15] AI excels at technical tasks and automation but lacks human traits like creativity, empathy, and judgment. Soft skills fill this gap, enabling innovation, collaboration, and the ability to turn AI insights into strategic decisions through critical thinking.[16] Deploying AI ethically, with a focus on fairness, gender equity,[17] transparency, and human supervision, is crucial for advancing equitable mental health care in LMICs.[18]

Our study offers new insights into the readiness and attitudes of mental health professionals (MHPs) in Pakistan, toward the integration of AI in clinical care. The findings demonstrate a notably high level of familiarity with AI tools (73.6%), with more than two-thirds (67.2%) already having used such tools in practice, despite the overwhelming lack of formal training (5.6%). This underscores a key gap between practical exposure and structured capacity-building, highlighting an urgent need for targeted training programs.

Another novel finding is the high recognition and utilization of AI-powered chatbots (67%), indicating their potential as a culturally appropriate, stigma-reducing solution in conservative contexts. Most MHPs supported AI as a tool for patient engagement (45.6%) and decision support (41%), rather than as a replacement for human roles, reflecting a preference for a hybrid care model. Concerns were primarily centered on ethical issues (64%), diagnostic accuracy (63.2%), and data privacy (56.8%), with a majority (53.6%) supporting AI use only under human supervision. These findings point toward a cautious optimism and a desire to balance innovation with accountability and professional judgment.

Furthermore, interest in using AI tools extended

beyond the clinical setting. More than three quarters (87%) of MHPs showed some level of interest in using AI for personal mental well-being, and nearly 69% expressed interest in using it for workplace tasks. This dual interest signals a broader acceptance of digital health tools and a willingness to integrate them into both personal and professional domains.

Despite the novel insights provided, this study has certain limitations. First, the sample was limited to 125 participants, predominantly from Punjab, which may limit the generalizability of the findings across other provinces or rural areas of Pakistan. Second, the cross-sectional design captures perceptions at a single time point and may not reflect evolving attitudes with increased AI exposure or training. Third, self-reporting bias may have influenced responses, particularly around the use and understanding of AI tools. Lastly, the study did not assess actual clinical outcomes associated with AI integration, limiting the conclusions to perceived readiness and attitudes rather than real-world effectiveness. Future research should include a broader and more diverse sample, explore changes in attitudes over time, and assess the real-world impact of AI on clinical outcomes. Qualitative studies can further investigate ethical concerns and user experiences to guide culturally sensitive and effective implementation.

Conclusion

This study underscores the importance of a balanced approach to AI integration one that leverages technological innovation while safeguarding clinical integrity and patient trust. Future efforts should focus on capacity-building, regulatory governance, and active engagement of mental health professionals in shaping the trajectory of AI in mental health care in Pakistan. Doing so will be vital to ensuring that AI augments rather than undermines the therapeutic alliance and overall quality of care.

Ethical Approval: The Institutional Review Board, King Edward Medical University, Lahore has approved this study vide letter No. 361/ RC/ KEMU.

Conflict of Interest: None

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Authors' Contribution:

IA: Conceptualization, study design, acquisition of data, analysis & interpretation, drafting of manuscript, final approval

KT: Acquisition of data, drafting of manuscript

AR: Acquisition of data, drafting of manuscript

IIH: Acquisition of data, drafting of manuscript

References

1. Bell IH, Thompson A, Valentine L, Adams S, Alvarez-Jimenez M, Nicholas J. Ownership, use of, and interest in digital mental health technologies among clinicians and young people across a spectrum of clinical care needs: cross-sectional survey. JMIR Ment Health. 2022;9(5):30716. doi.org/10.2196/-30716
2. Doraiswamy PM, Blease C, Bodner K. Artificial intelligence and the future of psychiatry: insights from a global physician survey. Artif intell med. 2020102:101753. doi.org/10.1016/j.artmed-.2019.101753
3. Cross S, Bell I, Nicholas J, Valentine L, Mangelsdorf S, Baker S, et al. Use of AI in mental health care: community and mental health professionals survey. JMIR Ment Health. 2024 ;11(1):60589. doi.org/10.2196/60589.
4. Choudhry FR, Khan N, Munawar K. Barriers and facilitators to mental health care: A systematic review in Pakistan. Int J Ment Health. 2023;52(2):124-62. doi.org/10.1080/00207411.2021.1941563
5. Mahesar RA, Ali SA, Shoib S, Babar Khan M, Ventriglio A. Mental health services in Pakistan. Int Rev of Psychiatry. 2024;1-6. doi.org/10.1080/-09540261.2024.2391796
6. Nicholas J, Bell IH, Thompson A, Valentine L, Simsir P, Sheppard H,et al. Implementation lessons from the transition to telehealth during COVID-19: a survey of clinicians and young people from youth mental health services. Psychiatry Res. 2021;299:113848. doi.org/10.1016/j.psychres.2021.113848
7. Rahsepar Meadi M, Sillekens T, Metselaar S, van Balkom A, Bernstein J, Batelaan N. Exploring the ethical challenges of conversational AI in mental health care: scoping review. JMIR Ment Health. 2025;12:60432. doi.org/10.2196/60432.
8. Blease C, Worthen A, Torous J. Psychiatrists' experiences and opinions of generative artificial intelligence in mental healthcare: An online mixed methods survey. Psychiatry Res. 2024;333:115724. doi.org/10.1016/j.psychres.2024.115724.

9. Gültekin M, Şahin M. The use of artificial intelligence in mental health services in Turkey: What do mental health professionals think?. Cyberpsychology: Cybersp J Psychosoc Res. 2024;18(1). doi.org/10.5817/CP2024-1-6.
10. Grassini S. Development and validation of the AI attitude scale (AIAS-4): a brief measure of general attitude toward artificial intelligence. Front psychol. 2023;14:1191628. doi.org/10.3389/fpsyg.2023-.1191628
11. Troup J, Fuhr DC, Woodward A, Sondorp E, Roberts B. Barriers and facilitators for scaling up mental health and psychosocial support interventions in low- and middle-income countries for populations affected by humanitarian crises: a systematic review. Int J Ment Health Syst. 2021; 15:1-4. doi.org/10.1186/s13033-020-00431-1
12. Pandya A, Lodha P, Ganatra A. Is ChatGPT ready to change mental healthcare? Challenges and considerations: a reality-check. Front Hum Dyn. 2024; 11:1289255. https://doi.org/10.3389/-fhumd.2023.1289255.
13. Singh OP. Artificial intelligence in the era of ChatGPT-Opportunities and challenges in mental health care. Indian J Psychiatry. 2023;65(3):297-8. doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_112_23
14. Thakkar A, Gupta A, De Sousa A. Artificial intelligence in positive mental health: a narrative review. Front Digit Health. 2024;18(6):1280235. doi.org/10.3389/fdgth.2024.1280235
15. Javed A, Afzal M. Era of Artificial Intelligence & Enhancing Human Capabilities. Ann King Edw Med Univ. 2025; 31:6165. doi.org/10.21649/-akemu.v31iSpl2.6165
16. Imran N, Rasheed R. Human Touch in a Digital World: The Enduring Value of Soft Skills in AI-Driven Healthcare. Ann King Edw Med Univ.2025; 31:6162. doi.org/10.21649/akemu.v31iSpl2.6162
17. Imran N, Tariq K. Artificial Intelligence and Gender-Based Violence: A Double-Edged Sword in the Fight for Justice and Equality. Annals of King Edward Medical University. 2025; 31:1. doi.org/10.21649/-akemu.v31i1.6079
18. Martinez-Martin N. Minding the AI: ethical challenges and practice for AI mental health care tools. Artificial intelligence in brain and mental health: Philosophical, ethical & policy issues.2022;111-125. doi.org/10.1007/978-3-030-74188-4_8.