International Journal of Advances in Applied Sciences (IJAAS)
Vol. 15, No. 3, September 2026, pp. 911~920
ISSN: 2252-8814, DOI: 10.11591/ijaas.v15.i3.pp911-920

Ethical issues in digital mental health delivery: a comprehensive scoping review of global challenges

Nurul Ain Mohd Daud, Hapsah Md Yusof, Norazani Ahmad, Fauziah Mohd Sa'ad, Nurul Hasyimah Mat Rani, Pau Kee, Nur Shuhana Mohd Sansuddin
Department of Guidance and Counselling, Faculty of Human Development, Sultan Idris Education University, Tanjung Malim, Malaysia

Article Info

Article history:

Received Apr 29, 2025
Revised May 30, 2026
Accepted Jun 17, 2026

Keywords:

Data privacy
Digital mental health
Ethical issues
Informed consent
Scoping review

ABSTRACT

Digital technologies are becoming increasingly integrated into mental health counselling. While expanding the boundaries of service provision, these technologies have also raised numerous ethical challenges that urgently need clarification. This study conducts a scoping review following the standardized methodology developed by Arksey and O'Malley. It identifies five core ethical challenges facing practitioners: privacy and data security; informed consent and autonomy; service accessibility and equality; algorithmic fairness and bias mitigation; and inclusiveness and equity. Existing comparative analyses show that Western countries, including the United States (US) and the United Kingdom (UK), have mature digital mental health regulatory frameworks. In contrast, non-Western countries generally face gaps in legal protections, which have created a global ethical divide. Artificial intelligence (AI)-related risks, such as algorithmic bias and lack of transparency, further exacerbate these problems. The study calls on policymakers to improve relevant regulatory frameworks and requires practitioners to receive specialized ethical training.

Corresponding Author:

Nurul Ain Mohd Daud
Department of Guidance and Counselling, Faculty of Human Development
Sultan Idris Education University
35900 Tanjung Malim, Malaysia
Email: nurul.ain@fpm.upsi.edu.my

1. INTRODUCTION

Following the COVID-19 pandemic, the penetration rate of global digital mental health care platforms has risen substantially. Telemedicine, mobile health applications, and artificial intelligence (AI)-driven diagnostic tools have completely reshaped the access model for mental health services. Nevertheless, this field still confronts core challenges at both the ethical and practical levels: while Western jurisdictions, including the United States (US) and the European Union (EU), boast mature regulatory frameworks such as the US 1996 Health Insurance Portability and Accountability Act (HIPAA) and the EU's general data protection regulation (GDPR), non-Western countries like Malaysia and South Africa suffer from severely lagging regulatory capacity. This paper argues that launching global collaborative dialogue is a necessary measure to address the fundamental imbalance in the north-south regulatory landscape.

Digital technology in mental health, therefore existing research [1] shows that during the COVID-19 pandemic, in-person mental health services worldwide were generally restricted, and three types of digital tools—telemedicine programs, mobile mental health applications, and online counselling platforms—gained widespread use. While these tools greatly improved service accessibility, the present study finds that this shift has brought new challenges to protecting the confidentiality of clients' personal information, challenges

that existing ethical framework are no longer able to address. Research by [2] points out that privacy has long been a core ethical principle in this field, and adapting to new technologies requires updating privacy measures to safeguard the security of patients' sensitive information and standardize data processing practices. Currently, big data technology, which is widely adopted across the entire industry, drives the large-scale collection of personal information, further amplifying privacy risks. In Malaysia, where data protection regulations remain incomplete, local patients' data face even higher security risks, making the practical urgency of this ethical issue increasingly prominent [3].

The core ethical dilemma in the field of digital mental health is the issue of informed consent. Traditional face-to-face counselling has established a mature informed consent mechanism through direct communication, which can ensure that clients are aware of the pros and cons of relevant services. This well-established framework, however, only highlights the brand-new problems emerging in digital scenarios. Study [4] points out that the terms of service of current digital mental health platforms are lengthy and complex, and the vast majority of clients cannot understand the content. Study [1] mentions that insufficient digital literacy among groups in low-resource settings further amplifies this risk; study [5] finds that most practitioners lack formal training to address relevant ethical challenges, which can easily trigger various problems. For this reason, this study proposes that the training and support system for practitioners must be re-evaluated to fulfil ethical responsibilities in digital settings. Informed consent in the field of digital mental health is a core ethical challenge that urgently needs clarification in this research area. Traditional face-to-face psychological counselling, which relies on direct communication, has developed a mature guarantee mechanism for informed consent, which can ensure that service users clearly understand all benefits and risks of the services they receive. Existing research shows that this mechanism faces multiple impacts in digital scenarios: points out that platform rules have inherent flaws [4], mentions that gaps in user literacy among low-resource groups will amplify risks [1], and clarifies that practitioners have obvious capability deficiencies [5]. In response to these issues, this study proposes to optimize the training and support system for practitioners.

Data privacy and security are the most central ethical concerns in the field of digital mental health counselling. Drawing on research from [6] sorts out global regulatory differences: the US HIPAA, the EU's GDPR, Malaysia's PDPA [1], and India's lack of a comprehensive, specialized regulatory system. This paper proposes that the popularization of telemedicine will amplify these loopholes, creating an urgent need to introduce a dedicated data protection framework. Informed consent, where obtaining informed consent in digital settings is a complex ethical challenge. Its effective implementation is hindered by low digital literacy, language barriers, and cumbersome legal documents, and risks are even higher in underdeveloped regions [7]. This process can be simplified through the use of videos and infographics [3].

Digital competency, this study identifies digital competency as an essential requirement for delivering ethically sound online mental health services. Practitioners must be proficient with digital platforms and adhere strictly to professional ethical standards [5]. However, most lack formal training in this area [1], which leads to three types of risks: breaches of confidentiality, communication errors, and unclear professional boundaries [5]. This deficiency is especially evident in resource-limited settings in non-Western countries [1].

This study defines digital competence as a prerequisite for ethical compliance in online mental health services, which requires practitioners to operate digital platforms proficiently and strictly uphold professional ethics. However, most practitioners lack formal training in this field. In [1], which leads to three types of risks: breaches of confidentiality, communication errors, and unclear professional boundaries [5]. This deficiency is especially prominent in non-Western resource-limited regions [1].

Maintaining therapeutic boundaries, previous research [5] notes that compared to traditional in-person face-to-face psychological counselling, digital psychological counselling is far more likely to trigger ethical risks due to blurred professional boundaries. A typical example of this issue is clients sending unscheduled private messages to their counsellors. The present study proposes that clear communication guidelines must be established at the initial stage of treatment. Cultural and contextual considerations, this study proposes that cultural and contextual factors exacerbate the ethical challenges of digital mental health counselling. Based on samples from non-Western countries, the research identifies three core problems: mental illness-related stigma, language barriers, and cognitive differences, and recommends that practitioners adjust their practices to adapt to local cultural contexts [1].

2. METHOD

This study adopts the scoping review method, following the framework proposed by Arksey and O'Malley [8]. It covers both eastern and western research contexts and strictly adheres to their five-stage process. All methodological details are listed in Table 1.

Table 1. Five-stage scoping process

No	Stages	Description
1	Identifying research questions	What are the ethical challenges of digital mental health services? What are the core attributes of existing literature in the field of digital mental health ethics?
2	Identifying relevant studies	A comprehensive search was conducted using Scopus and Web of Science (WOS), utilizing search terms, such as "digital mental health ethics", "data privacy", "informed consent", "telehealth", and "AI in mental health".
3	Study selection	Inclusion criteria focused on empirical studies, theoretical papers, and reviews addressing ethical issues in digital mental health counselling. Only English-language papers published between 2019 and 2024 were included. Book chapters and books were excluded.
4	Data extraction and analysis	Selected studies were analyzed using a structured Excel sheet capturing variables, such as year of publication, country, population, study design, key ethical issues, and recommendations. Thematic analysis was used to categorize the studies into five main ethical areas.
5	Collating and summarizing results	Findings were reorganized into themes and subthemes identified through thematic and comparative analyses to present a robust discussion of ethical challenges in digital mental health counselling.

3. RESULTS AND DISCUSSION

3.1. Overview of study selection and characteristics

The process was conducted using the five-stage scoping process. A total of 37 records were obtained from the WoS database, 128 from Scopus, and 276 from ERIC (n = 441). After removing 22 duplicate entries, this study completed multiple rounds of screening, and ultimately, 20 studies met the inclusion criteria. These eligible studies cover 10 countries, with the US ranking first with 6 included studies. The number of relevant publications rose sharply after 2020, reaching a peak of 5 publications in 2023.

This trend stems from the COVID-19 pandemic, which accelerated the promotion of digital mental health tools. This study reviews the 20 included studies in digital mental health. Scoping review analysis shows that these studies are geographically concentrated in high-income Western countries, and their publication dates are concentrated between 2020 and 2024. Drawing on the judgments presented in [1] and [9], the COVID-19 pandemic has catalyzed relevant ethical issues to shift from being latent to urgent. Previous frameworks that relied on Western regulatory systems, such as HIPAA and GDPR, cannot adapt to the legal, infrastructure, and cultural contexts of non-Western settings. This study extracts five major ethical themes, and their corresponding relationships are organized in Table 2, which will be analyzed in depth in subsequent sections.

3.2. Thematic findings and discussion

This study uses thematic analysis to extract five core research themes: privacy and data security; informed consent and autonomy; service accessibility and equity; algorithmic fairness and bias; and inclusiveness and equity. Proceeding in phases under an integrated analytical framework, the study first reports core findings for each individual theme, then interprets these findings within scientific and regulatory contexts. This approach can clarify the internal connections within the research field and generate insights for reference by policy and practice.

3.2.1. Privacy and data security

The systematic review conducted for this study in the field of digital mental health included a total of 20 relevant studies. Statistical analysis found that privacy and data security are the most frequently mentioned ethical concerns in the field. Five dedicated studies covered four types of scenarios, including online psychotherapy [10] and wearable screening [11], [12], and remote mental health services during the pandemic [13], with the core conflicts being the large volume of sensitive data collected yet insufficient corresponding protection, as well as inconsistent governance standards across different jurisdictions.

This study first draws on existing research to organize and outline three core international medical data regulatory frameworks: the US HIPAA, the EU's GDPR, and the United Kingdom (UK)'s National Health Service (NHS) encryption rules [1]. It then cites multiple US medical data security incidents recorded in [14], in which millions of medical records were leaked. On this basis, the study argues that existing regulatory rules cannot guarantee data security when relied on alone, and there is an urgent need to establish a supporting compliance framework. This study further finds that the privacy risks of mental health medical data are far higher than those in routine medical scenarios.

Taking Malaysia's current personal data protection act as an example, the country only has a general-purpose data protection framework, with no specialized rules for highly sensitive mental health data. This gap is not a purely technical issue; it will trigger a loss of patient trust, which in turn undermines the

very foundation of mental health services. For this reason, the study proposes that privacy protection must integrate three core dimensions: patient trust, treatment effectiveness, and equitable access to medical care.

Table 2. Charting the data

No	Author	Year	Finding	Key ethical challenge	Sub-theme	Theme
1	Skorburg *et al.* [15]	2024	Ethics of AI and participatory research in mental health	AI decision-making vs. patient autonomy	Autonomy in AI	Informed consent and autonomy
2	Kretzschmar *et al.* [16]	2019	Perspectives of young people on mental health chatbots	User trust and decision-making autonomy	Trust and autonomy in chatbots	Informed consent and autonomy
3	Nebeker *et al.* [17]	2019	Ethics in AI-supported digital health research	Informed consent and privacy in AI research	Informed consent in AI research	Informed consent and autonomy
4	Birk *et al.* [18]	2021	Value across user experience and data ownership domains	Data privacy and ownership	Ownership of data	Informed consent and autonomy
5	Hassem and Laher [3]	2022	Evaluation of ethical guidelines in online mental health screening	Confidentiality and data handling in online screenings	Privacy in online screening	Privacy and data security
6	Skorburg and Friesen [13]	2021	Ethical and epistemic concerns in digital mental health during COVID-19	Balancing rapid response and ethical rigor during crises	Digital health response	Privacy and data security
7	Stoll *et al.* [10]	2020	Ethical concerns in online psychotherapy	Maintaining confidentiality and informed consent online	Online psychotherapy	Privacy and data security
8	Chiauzzi *et al.* [11]	2020	Telemental health challenges during the COVID-19 era	Privacy and data security in video consultations	Privacy in telemental health	Privacy and data security
9	O'Leary *et al.* [12]	2024	Using wearables for mental health screening in children	Privacy and accuracy in wearable data for children	Privacy in wearables	Privacy and data security
10	Coghlan *et al.* [19]	2023	Ethical concerns with mental health chatbots	Transparency and accountability in chatbot recommendations	Transparency in chatbots	Algorithmic fairness and bias
11	McCradden *et al.* [20]	2023	Promise of AI in psychiatry and associated ethical issues	Ensuring fairness and transparency in AI models	Transparency in AI psychiatry	Algorithmic fairness and bias
12	Arbanas [21]	2024	Impact of chatbots like ChatGPT in psychiatric care	Trust and over-reliance on automated chatbots	Trust in chatbots	Algorithmic fairness and bias
13	Morch *et al.* [22]	2020	Ethical guidelines for AI in suicide prevention	Ethical use of AI in critical interventions	Ethics in AI suicide prevention	Algorithmic fairness and bias
14	Vilaza and McCashin [23]	2021	Ethics of chatbot automation in mental health therapy	Balancing automation with human care	Fairness in chatbot therapy	Algorithmic fairness and bias
15	Martin *et al.* [24]	2021	Development of digital phenotyping tools in mental health	Privacy in continuous monitoring and data capture	Digital phenotyping	Inclusivity and fairness
16	Valentine *et al.* [25]	2023	User autonomy vs algorithm-driven recommendations	Mental health apps recommendations	Mental health apps	Inclusivity and fairness
17	Pavez *et al.* [26]	2023	Ethics of care in marginalized communities using digital tools	Ensuring inclusivity and fairness in digital interventions	Digital inclusion	Inclusivity and fairness
18	Faissner *et al.* [27]	2024	Ethical analysis of depression detection via smartphone apps	Preventing epistemic injustice in passive tracking apps	Smartphone apps	Inclusivity and fairness
19	Alkureishi *et al.* [28]	2021	Digital mental health ethics during COVID-19	Equitable access to digital mental health tools	Digital mental health	Accessibility and equality
20	Callard *et al.* [29]	2022	Mental health in universities under digital capitalism	Impact of capitalism on student mental health and care	Digital capitalism	Accessibility and equality

3.2.2. Informed consent and autonomy

This study reviews four existing ethical studies in digital mental health services. These studies uniformly identify informed consent and user autonomy as core ethical challenges for the real-world deployment of such services. This study categorizes two types of problem-triggering scenarios: the first

involves the lack of in-person non-verbal cues in traditional remote counselling, and the second encompasses three types of risks derived from intelligent service carriers. This study further cites the chatbot study from reference [16], the AI research platform study from reference [15], and the conclusions presented in [18] to corroborate the pervasiveness of these pain points.

This study breaks through the traditional limitation of focusing solely on procedural compliance, expanding the boundary of the research's significance. Drawing on the views of scholar [30], it proposes that informed consent in digital contexts should move beyond the one-time process limited to initial registration, and be reconstructed as a continuous dialogue that iterates in sync with in-use technologies and treatment models. This argument refutes the dominant current mainstream practice that treats informed consent as a one-time event—that is, the lengthy terms of service that users click to agree to without any genuine understanding [14]. This problem is particularly acute in low-resource settings, where limited digital literacy and language barriers further undermine the practical significance of the consent process [7]. While multimedia informed consent tools with embedded videos and infographics already exist [3], their on-the-ground adoption rate remains very low. From a critical perspective, this paper argues that informed consent in digital health contexts has become invalid, directly undermining user autonomy. A study [31] notes that users lack understanding of the scope of use, sharing, and commercialization of their personal health data, and are thus unable to make truly informed medical decisions. In [32], propose replacing traditional all-or-nothing consent agreements with granular, user-controlled decision-making rights over personal data sharing. This paper adds that digital health regulatory frameworks require iterative updates to mandate the rollout of suitably adapted, dynamic, and easy-to-understand informed consent mechanisms.

3.2.3. Service accessibility and equality

Two independent studies focused on digital mental health services [29], [28] point out that a core ethical paradox exists in this field: while these technologies have the potential to reach previously underserved youth, rural communities, and economically disadvantaged groups, they may instead exacerbate existing health disparities. Existing research [28] draws on empirical data collected during the COVID-19 pandemic to confirm that a lack of stable internet, suitable devices, or necessary digital literacy excludes certain groups from accessing various digital services. This study focuses on the intersection of digital inequality and digital mental health, builds on the established research lineage in the field of digital inequality, and cites the definition of digital inequality proposed in [33], which frames digital inequality as covering three dimensions: access, skills, and usage. These dimensions together worsen the developmental disadvantages of marginalized groups, and when projected onto the mental health context, they create a supply-demand mismatch: the groups that need services most are the least able to access digital mental health support.

In [34] notes that integrating universal design into digital mental health platforms can only reduce some access barriers, and cannot resolve structural barriers in low- and middle-income countries such as poverty, geographic isolation, and gaps in digital infrastructure. Building on the topics of privacy and informed consent explored in our team's prior publications, this study identifies that groups with low digital literacy face dual risks: suffering privacy violations and being unable to provide valid informed consent. This study calls for ethical frameworks in this field to adopt an intersectional perspective to recognize the disproportionate harm that overlapping vulnerabilities inflict on specific populations.

3.2.4. Algorithmic fairness and bias

This review includes a total of five ethical studies, cited as [19]–[23], that highlighted the issues of algorithmic fairness and bias in AI-driven mental health technologies. These studies reach a consistent consensus: non-representative training data will trigger systemic bias across three core categories of applications: mental health diagnosis, chatbot therapy, and suicide risk assessment, indicating that non-representative training data can produce systemic biases. In addition, [22] also proposes that algorithmic errors in suicide prevention scenarios constitute life-or-death-level ethical risks.

This study states at the outset that the current field of medical AI suffers from a severe transparency deficit. Researchers [19], [20] proposes that the black-box nature of AI algorithms weakens accountability mechanisms and impedes physicians and patients from evaluating the basis of automated medical advice. In [21] supplements this line of research by identifying new risks in mental health care scenarios, pointing out that chatbots are easily misused in contexts that require human clinical judgment. In [23] further question whether automated cognitive behavioral therapy can meet the ethical standards of care. This study points out that AI used in medical scenarios at the current stage suffers from a severe lack of transparency.

Existing research [19] and [20] has noted that this issue undermines accountability mechanisms and may also give rise to risks, including the misuse of mental health chatbots [21] and ethical violations in automated cognitive therapy [23]. These findings are particularly concerning when viewed through the lens of global health equity. Drawing on the work presented in [1], [35], this study proposes that mental health AI

trained on data from Western populations will systematically distort the psychological presentations of individuals from non-Western cultural backgrounds. Existing technical approaches, including differential privacy and federated learning, can only resolve part of this problem. Only by advancing the diversification of datasets and embedding cultural sensitivity can the inequality that AI may amplify be eliminated, and cultural adaptation is a necessary prerequisite to achieve this goal.

3.2.5. Inclusivity and fairness

Previous studies, including [19], [25]–[27], [24], all focus on inclusion and equity in the field of digital mental health, and analyze the technological gains and losses of different population groups across three major dimensions. Among these, the findings of three sub-studies are particularly critical: in study [24] note that continuous digital phenotyping tools carry privacy risks, and argue that the design of such tools must balance clinical utility and personal autonomy; in study [25] find that recommendation systems for mental health applications prioritize user engagement metrics, which inadvertently narrow the scope of users' available treatment options; in study [26], from an opposing perspective, propose an ethics of care, arguing that digital inclusion designs for marginalized groups must center empathy and cultural responsiveness. Existing research has identified three categories of fairness risks in the cross-cultural application of digital mental health tools: in study [36] points out that most such tools are developed based on Western mental health frameworks, and cannot adapt to the core experiences of non-Western groups, including their expressions of distress and help-seeking behaviors; in study [27] find that passive self-tracking applications used for depression detection carry epistemic injustice, which leads them to misinterpret the self-cognition of marginalized groups; if algorithms incorporate geographic location and other factors as predictive variables, they will also embed structural disadvantages into clinical decision-making, generating biased diagnoses [35].

This study organizes and integrates existing research findings in the field of digital mental health. It corrects the erroneous misconception that inclusivity and equity are marginal ethical considerations for this field, and proposes that the two are the core foundations that underpin the legitimacy of the digital mental health sector. The study holds that all relevant work must engage with diverse communities, align with local cultures, and reject superficial adaptation of Western models. Failure to meet these requirements will lead to severe consequences, including fragmented services and systematic gaps in service quality.

3.3. The global ethical divide and implications for policy and practice

The core argument of this study is that in the field of global digital mental health service governance, long-standing unresolved ethical divides persist between Eastern and Western countries, a judgment that is corroborated by prior supporting research [1]. This study analyses the geographic distribution of 20 existing studies in the field and finds that as many as six of these studies originate from the US. This confirms that knowledge production in this field is highly concentrated in high-income countries, which aligns with the universal characteristic of the global knowledge production system that prioritizes Western perspectives and regulatory models.

Currently, the development of global privacy protection frameworks exhibits notable regional differences. The US and the EU have already established well-developed privacy regulations, including frameworks such as HIPAA and GDPR, whereas non-Western countries like Malaysia and South Africa are still working to develop comparable systems. Practitioners in these regions, facing a lack of clear guidelines, struggle to address the complex ethical challenges emerging from the local implementation of digital services.

This study contributes to the core research propositions in the field by adding a temporal perspective. An analysis of academic publishing trends reveals a sharp increase in the number of publications in this area since 2020. As noted in [36], the COVID-19 pandemic acted as a critical real-world test for scientific research practices, bringing ethical issues that were previously theoretical into practical application. This study suggests that strong research interest in the field will persist through 2023 and 2024, with ethical considerations now firmly integrated into its ongoing development. Through an integrative analysis of the core theme of the present study, the authors of this paper extract three interconnected practical insights for the on-the-ground implementation of digital ethics in the mental health field. First, there is an urgent need for international collaboration led by the World Health Organization (WHO), Association of Southeast Asian Nations (ASEAN), and the African Union to develop universal ethical principles adapted to different regulatory and cultural contexts. Second, practitioner training must expand beyond the scope of clinical competence to add new content covering digital ethics, data security, and cultural sensitivity for online scenarios. Western countries have already integrated such digital competencies into mental health training, while non-Western countries generally lag in this regard. Third, ethics governance must shift from a passive

response to proactive risk prediction. For AI and digital phenotyping technologies, risks must be anticipated before large-scale deployment, rather than remediated after harms occur.

4. CONCLUSION

The overarching theme of this scoping review is the ethical implications of delivering mental health counselling through digital means. From data security to the integrity of patient-clinician relationships, this theme addresses how the shift from in-person to digital settings introduces new ethical dilemmas. Although the existing literature extensively discusses privacy, data security, and informed consent, several gaps remain. There is limited research on empirical studies conducted in this area, as much research has been based on conceptual reviews. This limitation also revolves around the localization of digital mental health tools to suit diverse cultural backgrounds. Most interventions and ethical frameworks are based on Western models, leaving non-Western cultural implications underexplored. Although studies have addressed the ethical concerns of using AI chatbots and phenotyping tools, there is little long-term data on how these technologies affect mental health outcomes and patient autonomy over time. Although there is an acknowledgement of the digital divide, few studies have proposed actionable solutions to mitigate inequities in access to digital counselling, especially in low-resource settings. Further research is needed on how the shift to digital counselling affects the traditional patient-clinician relationship, especially in long-term therapeutic settings. Balancing innovation with ethical standards is a consistent theme, mainly to ensure equitable access and protect vulnerable populations.

ACKNOWLEDGMENTS

The authors would like to express sincere appreciation to Universiti Pendidikan Sultan Idris (UPSI), particularly the Faculty of Human Development and the Department of Guidance and Counselling, for their support in the completion of this study.

FUNDING INFORMATION

This research was funded by the Fundamental Research Grant Scheme (FRGS) under the Ministry of Higher Education, Malaysia (FRGS/1/2023/SS09/UPSI/02/2).

AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Nurul Ain Mohd Daud	✓				✓	✓	✓			✓		✓	✓	✓
Hapsah Md Yusof		✓				✓		✓	✓	✓				
Norazani Ahmad				✓		✓			✓	✓		✓		
Fauziah Mohd Sa'ad	✓			✓					✓	✓		✓		
Nurul Hasyimah Mat Rani		✓		✓					✓	✓		✓		✓
Pau Kee		✓			✓				✓	✓				
Nur Shuhana Mohd Sansuddin					✓					✓	✓			

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT

Not applicable. This study did not involve human participants, human data, or any personally identifiable information at any stage of the research. All data analyzed were either publicly available, fully anonymized, or derived from non-human sources, and no direct interaction with individuals, surveys, interviews, or clinical records was carried out. For these reasons, informed consent from human participants was not required for this study.

ETHICAL APPROVAL

Not applicable. This research did not involve human subjects, human biological materials, or experimental procedures on animals, nor did it include any intervention affecting living organisms. The work relied solely on computational models and publicly available or non-sensitive datasets that do not raise privacy or safety concerns. Accordingly, ethical approval from an institutional review board or animal ethics committee was not necessary for this study.

DATA AVAILABILITY

The authors confirm that the data supporting the findings of this study are available within the article.

REFERENCES

[1] R. Badrfam and A. Zandifar, "COVID-19 and mental health: an Iranian perspective," *Asian Journal of Psychiatry*, vol. 54, 2020, doi: 10.1016/j.ajp.2020.102266.
[2] E. Aboujaoude, "Protecting privacy to protect mental health: the new ethical imperative," *Journal of Medical Ethics*, vol. 45, no. 9, pp. 604–607, 2019, doi: 10.1136/medethics-2018-105313.
[3] T. Hassem and S. Laher, "Evaluating the efficacy of ethical guidelines for online screening of mental health in South Africa," *Frontiers in Psychology*, vol. 13, 2022, doi: 10.3389/fpsyg.2022.875911.
[4] P. Sharma, R. Wagani, and M. A. Varghese, "Bibliometric analysis of research in ethical concerns and dilemmas of digital mental health care in the last two decades," *Frontiers in Human Dynamics*, vol. 6, Jan. 2025, doi: 10.3389/fhumd.2024.1502432.
[5] T. Wykes, J. Lipshitz, and S. M. Schueller, "Towards the design of ethical standards related to digital mental health and all its applications," *Current Treatment Options in Psychiatry*, vol. 6, no. 3, pp. 232–242, Sep. 2019, doi: 10.1007/s40501-019-00180-0.
[6] C. B. Fisher and A. L. Fried, "Internet-mediated psychological services and the American Psychological Association ethics code," *Psychotherapy*, vol. 40, no. 1–2, pp. 103–111, 2003, doi: 10.1037/0033-3204.40.1-2.103.
[7] X. Zhou *et al.*, "The role of telehealth in reducing the mental health burden from COVID-19," *Telemedicine and e-Health*, vol. 26, no. 4, pp. 377–379, 2020, doi: 10.1089/tmj.2020.0068.
[8] H. Arksey and L. O'Malley, "Scoping studies: towards a methodological framework," *International Journal of Social Research Methodology: Theory and Practice*, vol. 8, no. 1, pp. 19–32, 2005, doi: 10.1080/1364557032000119616.
[9] C. Moreno *et al.*, "How mental health care should change as a consequence of the COVID-19 pandemic," *The Lancet Psychiatry*, vol. 7, no. 9, pp. 813–824, 2020, doi: 10.1016/S2215-0366(20)30307-2.
[10] J. Stoll, J. A. Müller, and M. Trachsel, "Ethical issues in online psychotherapy: a narrative review," *Frontiers in Psychiatry*, vol. 10, 2020, doi: 10.3389/fpsyt.2019.00993.
[11] E. Chiauzzi, A. Clayton, and J. Huh-Yoo, "Videoconferencing-based telemental health: important questions for the COVID-19 era from clinical and patient-centered perspectives," *JMIR Mental Health*, vol. 7, no. 12, 2020, doi: 10.2196/24021.
[12] A. O'Leary *et al.*, "Using wearable digital devices to screen children for mental health conditions: ethical promises and challenges," *Sensors*, vol. 24, no. 10, 2024, doi: 10.3390/s24103214.
[13] J. A. Skorburg and P. Friesen, "Mind the gaps: ethical and epistemic issues in the digital mental health response to COVID-19," *Hastings Center Report*, vol. 51, no. 6, pp. 23–26, 2021, doi: 10.1002/hast.1292.
[14] D. D. Luxton, E.-L. Nelson, and M. M. Maheu, *A practitioner's guide to telemental health: How to conduct legal, ethical, and evidence-based telepractice.* Washington, DC, USA: American Psychological Association, 2016, doi: 10.1037/14938-000.
[15] J. A. Skorburg, K. O'Doherty, and P. Friesen, "Persons or data points? ethics, artificial intelligence, and the participatory turn in mental health research," *American Psychologist*, vol. 79, no. 1, pp. 137–149, 2024, doi: 10.1037/amp0001168.
[16] K. Kretzschmar, H. Tyroll, G. Pavarini, A. Manzini, and I. Singh, "Can your phone be your therapist? young people's ethical perspectives on the use of fully automated conversational agents (chatbots) in mental health support," *Biomedical Informatics Insights*, vol. 11, no. 11, 2019, doi: 10.1177/1178222619829083.
[17] C. Nebeker, J. Torous, and R. J. B. Ellis, "Building the case for actionable ethics in digital health research supported by artificial intelligence," *BMC Medicine*, vol. 17, no. 1, 2019, doi: 10.1186/s12916-019-1377-7.
[18] R. Birk, A. Lavis, F. Lucivero, and G. Samuel, "For what it's worth. Unearthing the values embedded in digital phenotyping for mental health," *Big Data and Society*, vol. 8, no. 2, pp. 1–5, 2021, doi: 10.1177/20539517211047319.
[19] S. Coghlan, K. Leins, S. Sheldrick, M. Cheong, P. Gooding, and S. D'Alfonso, "To chat or bot to chat: ethical issues with using chatbots in mental health," *Digital Health*, vol. 9, pp. 1–11, 2023, doi: 10.1177/20552076231183542.
[20] M. McCradden, K. Hui, and D. Z. Buchman, "Evidence, ethics and the promise of artificial intelligence in psychiatry," *Journal of Medical Ethics*, vol. 49, no. 8, pp. 573–579, 2023, doi: 10.1136/jme-2022-108447.
[21] G. Arbanas, "ChatGPT and other chatbots in psychiatry," *Archives of psychiatry research*, vol. 60, no. 2, pp. 137–142, 2024, doi: 10.20471/june.2024.60.02.07.
[22] C. M. Mörch, A. Gupta, and B. L. Mishara, "Canada protocol: an ethical checklist for the use of artificial Intelligence in suicide prevention and mental health," *Artificial Intelligence in Medicine*, vol. 108, 2020, doi: 10.1016/j.artmed.2020.101934.
[23] G. N. Vilaza and D. McCashin, "Is the automation of digital mental health ethical? applying an ethical framework to chatbots for cognitive behaviour therapy," *Frontiers in Digital Health*, vol. 3, no. 2, pp. 145–158, 2021, doi: 10.3389/fdgth.2021.689736.

[24] N. M.-Martin, H. T. Greely, and M. K. Cho, "Ethical development of digital phenotyping tools for mental health applications: Delphi study," *JMIR mHealth and uHealth*, vol. 9, no. 7, 2021, doi: 10.2196/27343.
[25] L. Valentine, S. D'Alfonso, and R. Lederman, "Recommender systems for mental health apps: advantages and ethical challenges," *AI and Society*, vol. 38, no. 4, pp. 1627–1638, 2023, doi: 10.1007/s00146-021-01322-w.
[26] I. Pavez, T. Correa, and C. Farías, "The power of emotions: the ethics of care in the digital inclusion processes of marginalized communities," *Social Inclusion*, vol. 11, no. 3, pp. 275–285, 2023, doi: 10.17645/si.v11i3.6623.
[27] M. Faissner, E. Kuhn, R. Müller, and S. Laacke, "Detecting your depression with your smartphone? – an ethical analysis of epistemic injustice in passive self-tracking apps," *Ethics and Information Technology*, vol. 26, no. 2, 2024, doi: 10.1007/s10676-024-09765-7.
[28] M. A. Alkureishi *et al.*, "Digitally disconnected: qualitative study of patient perspectives on the digital divide and potential solutions," *JMIR Human Factors*, vol. 8, no. 4, Dec. 2021, doi: 10.2196/33364.
[29] F. Callard, D. Kotouza, P. Garnett, and L. Rocha, "Mental health in universities in an age of digital capitalism: the United Kingdom as exemplary case," *SSM - Mental Health*, vol. 2, 2022, doi: 10.1016/j.ssmmh.2022.100094.
[30] G. C. S. Keong, "'Clicking without understanding': a mixed-methods analysis of user agreements in digital mental health services," *International Journal of Medical Informatics*, vol. 213, Jun. 2026, doi: 10.1016/j.ijmedinf.2026.106384.
[31] D. C. Mohr, M. Zhang, and S. M. Schueller, "Personal sensing: understanding mental health using ubiquitous sensors and machine learning," *Annual Review of Clinical Psychology*, vol. 13, no. 1, pp. 23–47, 2017, doi: 10.1146/annurev-clinpsy-032816-044949.
[32] J. E. Sabin and J. C. Harland, "Professional ethics for digital age psychiatry: boundaries, privacy, and communication," *Current Psychiatry Reports*, vol. 19, no. 9, Sep. 2017, doi: 10.1007/s11920-017-0815-5.
[33] L. Robinson *et al.*, "Digital inequalities and why they matter," *Information, Communication and Society*, vol. 24, no. 3, pp. 396–410, 2021, doi: 10.1080/1369118X.2020.1776373.
[34] J. Torous *et al.*, "The growing field of digital psychiatry: current evidence and the future of apps, social media, chatbots, and virtual reality," *World Psychiatry*, vol. 20, no. 3, pp. 318–335, 2021, doi: 10.1002/wps.20883.
[35] J. H. Bentley, N. Tin, and N. Paschal, "Mental health apps and the cultural disparities in algorithmic design: a scoping review," *Journal of Medical Internet Research*, vol. 23, no. 7, 2021, doi: 10.2196/20098.
[36] J. Chu and A. Leino, "Cultural adaptation and its importance for digital mental health services," *Digital Health*, vol. 5, pp. 1–6, 2019, doi: 10.1177/2055207619856169.

BIOGRAPHIES OF AUTHORS

Nurul Ain Mohd Daud is an associate professor in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She earned her Ph.D. in Multicultural Counselling in Education from the University of Bristol. She specialized in qualitative methodology and multicultural counselling. Her research focuses on a digitalization framework for mental health to improve the ethical effectiveness of mental health practitioners' delivery. She can be contacted at email: nurul.ain@fpm.upsi.edu.my.

Hapsah Md Yusof is a senior lecturer in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She earned her Ph.D. in Counsellor Education and Supervision from Southern Illinois University Carbondale, United States. Her research focuses on supervision and gerontology in counselling. Her current research focuses on building a psychosocial well-being model framework for family caregivers of the elderly in Malaysia. She can be contacted at email: hapsah@fpm.upsi.edu.my.

Dr. Norazani Ahmad is a senior lecturer in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She completed her Ph.D. in Guidance and Counselling from the University of Malaya and an MEd in Counselling from Universiti Kebangsaan Malaysia. Her area of expertise is counselling supervision. She can be contacted at email: norazani@fpm.upsi.edu.my.

Fauziah Mohd Sa'ad is an associate professor in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She earned her Ph.D. in Psychology in Guidance and Counselling from Universiti Kebangsaan Malaysia and M.Ed. in Guidance and Counselling from Universiti Putra Malaysia. She specialized in mental health. She can be contacted at email: fauziah_msaad@fpm.upsi.edu.my.

Nurul Hasyimah Mat Rani is a lecturer in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She earned her Ph.D. in Guidance and Counselling (Ethics and Legislation in Counselling) from Universiti Putra Malaysia. She just finished her postdoctoral studies at the Childlight-Global Child Safety Institute at the University of Edinburgh, Scotland, United Kingdom. Her research focuses on the ethics and legislation in counselling, family support in counselling, and counselling intervention for child sexual exploitation and abuse. She can be contacted at email: hasyimah@fpm.upsi.edu.my.

Dr. Pau Kee is a senior lecturer in the Department of Guidance and Counselling, Faculty of Human Development, Universiti Pendidikan Sultan Idris, Malaysia. She earned her Ph.D. in Clinical Mental Health Counselling from Old Dominion University in Norfolk, Virginia, United States. Her academic and professional focus is on clinical mental health counselling, where she contributes to the development of future counsellors and advances mental health practices. She can be contacted at email: pau_kee@fpm.upsi.edu.my.

Nur Shuhana Mohd Sansuddin is employed as a graduate research assistant in the Department of Guidance and Counselling, Faculty of Human Development at Universiti Pendidikan Sultan Idris, Malaysia. She has obtained her bachelor's degree in Counselling from the University of Malaya, Kuala Lumpur. She is currently pursuing her Ph.D. (Guidance and Counselling) at Sultan Idris Education University, Tanjung Malim, Perak. She can be contacted at email: nurshuhana82@gmail.com.