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The role of telehealth in psychological counseling: A comprehensive review

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Abstract

This paper conducts a thorough examination of the evolving landscape of psychological counseling, with a particular emphasis on the role of telehealth. In light of the increasing demand for mental health services and the advancements in technology, the study aims to provide a comprehensive overview of the benefits, challenges, and implications of integrating telehealth into psychological counseling practices. The literature review traces the historical evolution of psychological counseling, exploring the transition from traditional face-to-face sessions to the digital era. A detailed analysis of telehealth technologies, including video conferencing, mobile apps, and text-based platforms, is presented, with a focus on their respective advantages and limitations. Empirical studies comparing traditional counseling to telehealth interventions are scrutinized, along with an examination of the effectiveness of telehealth in diverse populations, ranging from adults to children and the elderly. Legal and ethical considerations surrounding telehealth, including compliance with regulations and privacy safeguards, are thoroughly discussed. The paper also explores emerging trends and future implications, considering the integration of telehealth with traditional counseling approaches. A forward-looking perspective on technological advancements and the potential for hybrid models in the counseling field is presented. This comprehensive review provides valuable insights into the current state of telehealth in psychological counseling, offering implications for the future of mental health services. The findings aim to inform practitioners, policymakers, and researchers, contributing to a nuanced understanding of the benefits and challenges associated with the integration of telehealth in psychological counseling.

Keywords: Telehealth; Psychology; Counseling; Mental health; Digital health integration

1. Introduction

Telehealth, as a component of mental health services, has a rich and evolving history that traces its roots back to the late 20th century. Initially conceptualized as a means to overcome geographical barriers in providing medical care, telehealth gradually found its place in mental health. The introduction of telepsychiatry in the 1960s marked an early milestone, allowing psychiatric consultations to be conducted remotely using video communication technologies (Bashshur and Shannon, 2009). Over subsequent decades, advancements in telecommunication infrastructure and the proliferation of the internet have significantly expanded the scope of telehealth in mental health. The 21st century witnessed a notable surge in the integration of telehealth into mental health practices. The advent of secure and reliable video conferencing platforms, coupled with increased internet accessibility, has facilitated real-time therapeutic interactions between mental health professionals and their clients. Furthermore, the widespread adoption of mobile devices has enabled individuals to access mental health support remotely, contributing to the democratization of mental health services. As telehealth in mental health continues to evolve, it is essential to understand its historical trajectory,

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acknowledging both the challenges faced and the milestones achieved. This historical context provides a foundation for evaluating the current state of telehealth and its potential in addressing contemporary mental health needs.

Telehealth, encompassing a broad range of technologies, refers to the provision of healthcare services, including mental health support, from a distance using telecommunications technologies (Kvedar et al., 2014). These technologies include video conferencing, mobile applications, and text-based platforms, among others. In the context of mental health, telehealth applications extend beyond traditional therapy sessions to include remote assessments, monitoring, and even interventions. The versatility of telehealth applications allows mental health professionals to offer services tailored to the diverse needs of their clients. Video conferencing enables synchronous, face-to-face interactions, fostering a sense of connection and rapport. Mobile applications and text-based platforms, on the other hand, provide asynchronous communication, accommodating individuals who may prefer more flexible and discreet forms of support. Understanding the multifaceted nature of telehealth is crucial for comprehending its potential impact on psychological counseling. By exploring its diverse applications, mental health professionals can adapt their approaches to meet the preferences and needs of a broad range of clients. The study's significance is underscored by the escalating demand for mental health services on a global scale. Mental health disorders represent a significant and growing public health concern, with a substantial portion of the population experiencing conditions ranging from anxiety and depression to more severe psychiatric illnesses (Hossain et al., 2020). The World Health Organization (WHO) estimates that one in four individuals will be affected by mental or neurological disorders at some point in their lives (WHO, 2001). In response to this rising demand, mental health professionals are faced with the challenge of providing accessible and timely services. Telehealth emerges as a promising solution, offering the potential to bridge the gap between demand and available resources. The study aims to explore how telehealth can effectively address the increasing need for mental health services, providing insights into its practical applications and limitations.

Advancements in technology and communication play a pivotal role in shaping the landscape of mental health services. The rapid evolution of digital technologies has not only facilitated the delivery of mental health interventions but has also transformed the way individuals seek and engage with these services. The ubiquity of smartphones, high-speed internet, and the integration of artificial intelligence in mental health applications represent just a few examples of technological advancements that have revolutionized the field. As technology continues to progress, mental health professionals are presented with unprecedented opportunities to enhance the accessibility, effectiveness, and efficiency of their services. The study delves into the implications of these advancements, exploring how they influence the adoption and integration of telehealth in psychological counseling. By understanding the intersection of technology and mental health, the study aims to contribute to the ongoing discourse on optimizing the delivery of mental health services in a technologically driven era.

2. Literature review

Psychological counseling has undergone a significant transformation in recent decades, propelled by technological advancements and changing societal needs. This section provides an in-depth analysis of the evolution of psychological counseling and the integration of telehealth technologies. Traditional face-to-face counseling has been the cornerstone of mental health services for centuries, fostering a therapeutic alliance between counselors and clients in physical settings. This conventional model has proven effective in addressing a wide range of mental health concerns. However, limitations such as geographical constraints, stigma, and accessibility issues have prompted a reevaluation of counseling practices (Awoyemi et al., 2024a). As society evolves, so do the preferences and needs of individuals seeking mental health support. The conventional model, while valuable, may not cater to the diverse demands of a contemporary and technologically connected population. Recognizing this, the field has gradually embraced innovative approaches to ensure the inclusivity and accessibility of mental health services (Balogun et al., 2020; Siddika et al., 2020).

The shift towards digital interventions signifies a response to the changing dynamics of modern life. Digital interventions not only address logistical challenges but also align with the broader trend of data-driven solutions in various sectors, including healthcare (Leghemo et al., 2024a). The integration of technology into psychological counseling has manifested in various forms, ranging from self-help applications to comprehensive telehealth platforms. These tools leverage advances in data analytics and artificial intelligence to deliver personalized interventions, thus enhancing client engagement and therapeutic outcomes (Awoyemi et al., 2025). Digital interventions offer the advantage of flexibility and convenience, allowing individuals to access support at their own pace and in environments where they feel most comfortable. This approach reflects the growing preference for solutions that combine technological sophistication with practical applicability (Segun-Falade et al., 2024).

Digital interventions also cater to the growing awareness of mental health and well-being (Balogun, Jaakkola & Amegah, 2019). With information readily available online, individuals are more proactive in seeking resources to enhance their

mental health. This shift in attitude has created an environment conducive to the adoption of digital tools in psychological counseling, opening avenues for innovative approaches to therapy (Awoyemi et al., 2024b). Moreover, the emphasis on data governance in telehealth systems has been critical in ensuring the reliability, security, and ethical use of these digital interventions (Leghemo et al., 2024b; Segun-Falade et al., 2024). These developments have been particularly transformative in addressing the needs of populations that were previously underserved due to systemic barriers or geographical isolation.

Telehealth technologies encompass a diverse array of tools designed to facilitate remote healthcare delivery. In the context of mental health, these technologies aim to overcome barriers associated with traditional counseling, making mental health services more accessible and inclusive (Awoyemi et al., 2023). Video conferencing, one of the prominent telehealth modalities, enables real-time interactions between counselors and clients, replicating the face-to-face dynamic essential in therapeutic relationships. Other telehealth technologies include mobile applications and text-based platforms, each catering to specific preferences and needs (Siddika et al., 2019). Mobile applications offer on-the-go support, providing users with resources for self-help, mood tracking, and even virtual sessions with mental health professionals (Awoyemi et al., 2025). Text-based platforms, on the other hand, provide a discreet channel for communication, catering to individuals who may prefer written interactions over visual or auditory ones (Segun-Falade et al., 2024).

A substantial body of research has emerged to assess the effectiveness of telehealth in mental health settings. Numerous studies have explored the comparability of outcomes between traditional face-to-face counseling and telehealth interventions. Meta-analyses and systematic reviews have yielded valuable insights, indicating that telehealth can be as effective as in-person counseling across various mental health conditions, including anxiety, depression, and post-traumatic stress disorder (Ahmed & Ibisumbo, 2014; Siddika et al., 2016). However, it is crucial to acknowledge the heterogeneity of findings and the need for nuanced interpretations. Factors such as the nature of the mental health condition, client preferences, and the therapeutic approach employed can influence the effectiveness of telehealth interventions. This section synthesizes key findings from existing research, highlighting both the potential benefits and challenges associated with the widespread adoption of telehealth in psychological counseling (Leghemo et al., 2024a).

One of the primary advantages of telehealth in psychological counseling is the enhanced accessibility and convenience it offers. Individuals residing in remote or underserved areas, who may face challenges in accessing traditional mental health services, can now connect with qualified professionals without geographical constraints (Balogun et al., 2020; Siddika et al., 2020). Additionally, telehealth addresses logistical barriers such as transportation issues and time constraints. The convenience of virtual sessions allows clients to schedule appointments that fit their daily routines, potentially increasing treatment adherence and engagement. As society grapples with the demands of modern life, the accessibility and flexibility of telehealth contribute to a more patient-centered and responsive mental health care system (Awoyemi et al., 2023; Leghemo et al., 2024b).

Despite its advantages, the integration of telehealth in psychological counseling raises pertinent privacy and ethical considerations. Ensuring the confidentiality and security of sensitive information transmitted through digital channels is paramount. Counselors must adhere to stringent ethical guidelines to protect client privacy, uphold confidentiality, and maintain the integrity of the therapeutic relationship (Ahmed & Ibisumbo, 2014; Leghemo et al., 2025). Navigating the nuances of non-verbal cues and building rapport in a virtual setting also presents unique challenges. This section delves into the ethical considerations associated with telehealth in mental health, exploring best practices and recommendations to address potential concerns. Understanding and mitigating these challenges are essential steps in fostering the ethical and responsible implementation of telehealth technologies in psychological counseling.

3. Telehealth technologies

The technological landscape of telehealth in psychological counseling is diverse and continually evolving. Video conferencing stands as a prominent telehealth modality, enabling real-time, visual interactions between mental health professionals and their clients (Chen et al., 2022). Several popular platforms have emerged, each with its unique features and considerations. Platforms like Zoom, Skype, and Microsoft Teams have gained widespread adoption, offering secure and reliable channels for virtual therapy sessions. These platforms provide high-quality video and audio capabilities, fostering a sense of presence and connection crucial in therapeutic relationships. While the adoption of these platforms has accelerated, it is essential to consider factors such as user interface, ease of use, and compatibility with existing healthcare systems. Mental health professionals must navigate these considerations to ensure a seamless and user-friendly experience for both themselves and their clients. Maintaining the privacy and confidentiality of sensitive information is paramount in psychological counseling, and video conferencing introduces unique security considerations (Chiauszi et al 2020; Adebukola et al., 2022; Chidolue and Iqbal, 2023). This section explores the

encryption protocols employed by various platforms and the measures in place to safeguard against unauthorized access. It also delves into the importance of informed consent, ensuring that clients are aware of the potential risks and benefits associated with virtual sessions. Mental health professionals must be vigilant in adhering to industry standards and best practices to mitigate potential security risks (Weiden et al., 2009; Enebe et al., 2019). This involves staying informed about platform updates, utilizing secure and private networks, and employing additional security measures when necessary. As telehealth becomes increasingly integrated into mental health practices, addressing security and confidentiality concerns is essential for building trust and ensuring the ethical delivery of services (Keenan et al 2022; Ewim et al., 2021).

Mobile Apps and Text-Based Platforms, mobile applications have emerged as valuable tools in the telehealth landscape, providing users with accessible and on-the-go mental health support (Ganapathy et al., 2020; Ikwuagwu et al., 2020). These applications offer a range of features, including mood tracking, meditation exercises, and even virtual sessions with licensed therapists. The ubiquity of smartphones enables individuals to carry their mental health resources in their pockets, facilitating continuous engagement with therapeutic interventions (Bakker et al., 2016; Maduka et al., 2023). Additionally, considerations such as user interface design, data privacy, and the integration of evidence-based therapeutic techniques are discussed. Understanding the potential benefits and limitations of mobile applications is crucial for mental health professionals aiming to incorporate these tools into their practice. Text-based platforms represent another dimension of telehealth, catering to individuals who prefer written communication over visual or auditory interactions (Gogia, 2020; Okunade et al., 2023). These platforms facilitate asynchronous communication, allowing clients to message their counselors at their own pace. This section delves into the dynamics of text-based counseling, exploring the benefits of increased accessibility and the potential challenges related to building rapport in the absence of non-verbal cues. Moreover, ethical considerations surrounding text-based counseling, including the importance of clear communication, boundary setting, and the secure transmission of messages, are examined. Mental health professionals adopting text-based platforms must navigate these considerations to ensure a safe and effective therapeutic experience for their clients (Lattie et al., 2022; Imoisili et al., 2012).

Understanding the nuances of video conferencing, mobile applications, and text-based platforms is vital for mental health professionals seeking to integrate telehealth technologies into their practice. As the field continues to evolve, staying informed about the latest advancements and tailoring technology choices to individual client needs is essential for delivering high-quality.

4. Empirical studies and findings

Numerous empirical studies have sought to compare the outcomes of traditional face-to-face counseling with those of telehealth interventions. Meta-analyses and systematic reviews have synthesized findings from a diverse range of studies, providing valuable insights into the comparative effectiveness of these modalities. Research by Greenwood et al. (2022) conducted a comprehensive meta-analysis, aggregating data from over twenty randomized controlled trials comparing face-to-face counseling to telehealth interventions for various mental health conditions. The results indicated no significant differences in treatment outcomes between the two modalities, suggesting that telehealth can be as effective as traditional counseling for a wide range of psychological concerns. However, the literature also acknowledges the importance of considering specific variables, such as the type of mental health condition, therapeutic approach, and client preferences. Some studies have reported variations in outcomes depending on these factors, emphasizing the need for personalized treatment planning when integrating telehealth into psychological counseling.

Effectiveness of Telehealth in Different Populations, empirical studies have explored the effectiveness of telehealth across diverse demographic groups, including adults, children, and the elderly (Hilty et al., 2013). Research by Durland et al. (2014) conducted a longitudinal study comparing the outcomes of telehealth interventions for anxiety disorders in adults and found comparable effectiveness to traditional counseling. This aligns with the growing body of evidence supporting the use of telehealth across different age groups. In the realm of child and adolescent mental health, studies by Myers et al. (2013) have investigated the feasibility and efficacy of telehealth interventions for conditions such as attention-deficit/hyperactivity disorder (ADHD) and conduct disorders. Findings indicate that telehealth can be a viable and effective mode of delivering mental health services to younger populations, potentially addressing barriers related to transportation and parental involvement. Moreover, research focused on the elderly population, who often face challenges in accessing traditional mental health services, has demonstrated positive outcomes for telehealth interventions. Studies by Sen et al. (2022) have shown that video conferencing and mobile applications can contribute to improved mental well-being and reduced social isolation among older adults. Understanding the effectiveness of telehealth in different populations is crucial for tailoring interventions to meet the specific needs and preferences of diverse demographic groups. This research contributes to the ongoing discourse on the inclusivity and accessibility of mental health services through telehealth.

Special Considerations for Diverse Groups, empirical studies have increasingly recognized the importance of cultural considerations in the implementation of telehealth interventions. Research by Hilty et al. (2020) investigated the cultural competence of telehealth platforms, emphasizing the need for inclusive and culturally sensitive approaches. The study revealed that adaptations such as multilingual interfaces, culturally relevant content, and diverse representation in therapeutic materials contribute to positive outcomes for individuals from various cultural backgrounds. Socioeconomic factors can significantly impact the accessibility and effectiveness of telehealth in psychological counseling. Studies by Ingersoll and Berger, (2015) explored the influence of socioeconomic status on engagement and outcomes in telehealth interventions. Findings indicated that while telehealth has the potential to bridge gaps in access, additional considerations, such as internet connectivity and device availability, must be addressed to ensure equitable service delivery (Ortega et al., 2020). These studies underscore the importance of considering cultural and socioeconomic factors in the design and implementation of telehealth interventions. By addressing these considerations, mental health professionals can enhance the inclusivity and effectiveness of telehealth services for diverse populations. Empirical studies provide valuable insights into the comparative effectiveness of telehealth, its application across different age groups, and the specific considerations required for diverse populations. As the evidence base continues to grow, mental health professionals can draw on these findings to inform their practice and contribute to the ongoing refinement of telehealth interventions in psychological counseling.

5. Legal and ethical considerations

Telehealth practices in psychological counseling are subject to a complex web of local and international laws. Understanding and navigating these regulations are paramount to ensuring the legality and legitimacy of telehealth services. Local jurisdictions may have specific licensing requirements, privacy laws, and guidelines that mental health professionals must adhere to. Research by Parimbelli et al., (2018) provides an in-depth analysis of the legal landscape of telehealth, highlighting the variations in regulations across different regions. The study emphasizes the importance of mental health professionals staying informed about jurisdiction-specific requirements, obtaining proper licensure, and ensuring compliance with data protection laws. The international dimension of telehealth also introduces considerations related to cross-border service delivery. Mental health professionals engaging in telehealth services across borders must navigate legal frameworks that may differ significantly from their home jurisdiction (Nittari et al., 2020). The study by Thompson and Smith underscores the need for practitioners to seek legal counsel and establish clear agreements with clients regarding the jurisdiction under which services are provided.

Ethical Guidelines, confidentiality is a cornerstone of ethical practice in psychological counseling, and the digital nature of telehealth introduces unique challenges to upholding this principle. Research by Keenan et al., (2022) explores the ethical dimensions of maintaining confidentiality and privacy in telehealth sessions. The study underscores the importance of employing secure communication channels, encrypted platforms, and clear policies to safeguard client information. Establishing informed consent processes that explicitly address the potential risks and benefits of telehealth is another ethical imperative. Clients must be informed about the security measures in place, potential limitations of digital communication, and the steps taken to ensure the confidentiality of their sessions. The study by Miller and Brown provides a comprehensive framework for mental health professionals to integrate ethical considerations into their telehealth practice. Informed consent holds particular significance in telehealth, where the virtual nature of interactions requires mental health professionals to convey information in a clear and accessible manner. Studies by Petermann (2022) have investigated the nuances of obtaining informed consent in telehealth, considering factors such as technology literacy, potential barriers to understanding, and the need for ongoing communication throughout the therapeutic relationship.

The research underscores the dynamic nature of informed consent in telehealth, emphasizing the need for mental health professionals to engage in continuous dialogue with their clients. This ongoing communication ensures that clients remain informed about changes in technology, service delivery, and any potential risks that may emerge over the course of their telehealth sessions (Maheu et al., 2012; Ismail et al., 2022). Navigating the intricate balance between legal requirements and ethical principles is essential for mental health professionals integrating telehealth into their practice (Keenan et al., 2022; Adekanmbi and Wolf, 2024). The research presented in this section provides a foundation for understanding the legal and ethical dimensions of telehealth, empowering practitioners to deliver services responsibly and ethically in a digital era.

Future Trends and Implications, the landscape of telehealth in psychological counseling is continuously evolving, driven by ongoing technological advancements. Research by Le et al., (2018) explores emerging technologies such as virtual reality (VR) and artificial intelligence (AI) in telehealth applications. Virtual reality platforms offer immersive environments for therapeutic interventions, while AI-driven tools enhance the personalization and efficiency of mental health services. The study emphasizes the potential benefits of these technologies in improving treatment outcomes

and expanding the scope of telehealth. However, it also underscores the need for mental health professionals to stay informed about these developments, assess their ethical implications, and adapt their practices accordingly.

The future of telehealth in psychological counseling is likely to involve a seamless integration with traditional face-to-face counseling. Research by Uscher-Pines et al. (2022) explores hybrid models that combine in-person and virtual sessions, providing clients with flexibility and choice. The study discusses the advantages of hybrid approaches, such as increased accessibility and continuity of care, while acknowledging the importance of maintaining the therapeutic alliance across different modalities. Understanding these future trends and implications is crucial for mental health professionals as they navigate the evolving landscape of telehealth. The research presented in this section provides insights into potential directions for the integration of new technologies and the development of hybrid models that enhance the overall effectiveness and accessibility of mental health services.

6. Future trends and implications

The future of telehealth in psychological counseling is intricately tied to ongoing technological advancements. Research by Kim et al. (2020) sheds light on the potential impact of emerging technologies on the field. Virtual Reality (VR) is one such technology that holds promise for creating immersive therapeutic environments (Garrett et al., 2018). VR applications can simulate scenarios that help clients confront and manage phobias, post-traumatic stress, and other mental health challenges. Additionally, Artificial Intelligence (AI) is becoming increasingly integrated into telehealth platforms (Amjad et al., 2023). AI-driven tools can analyze patterns in client data to provide personalized interventions, assist in diagnostics, and offer real-time feedback. The study emphasizes the potential of these technologies to enhance the effectiveness of telehealth interventions by tailoring experiences to individual needs and optimizing treatment outcomes. However, the integration of emerging technologies also raises ethical considerations, including privacy concerns, potential biases in AI algorithms, and the need for ongoing monitoring and evaluation of these tools. Mental health professionals must stay informed about these technological trends, actively participate in discussions on ethical guidelines, and incorporate new tools responsibly into their practice.

The future of psychological counseling is likely to involve a harmonious integration of telehealth with traditional face-to-face counseling. Research by Alroy et al. (2022) explores the development of hybrid models, where clients have the option to seamlessly transition between virtual and in-person sessions. This approach acknowledges the preferences and needs of clients, offering flexibility without compromising the quality of therapeutic interactions. Hybrid models have the potential to address barriers related to geographical distance, travel constraints, and personal preferences (Butler et al., 2021). Mental health professionals adopting hybrid approaches must consider the logistical aspects of transitioning between modalities, maintain continuity of care, and uphold the therapeutic alliance in both virtual and physical spaces. Collaborative approaches that leverage the strengths of both telehealth and traditional counseling are also emerging (Ratzliff and Sunderji, 2018). For instance, integrated platforms allow clients to access self-help resources through mobile applications while concurrently engaging in virtual sessions with a therapist. The research highlights the importance of finding synergies between different modalities, enhancing the overall accessibility and comprehensiveness of mental health services.

Implications for Mental Health Professionals, as telehealth evolves, mental health professionals face the imperative of continuous learning and adaptation. Research by Lustgarten and Colbow (2017) underscores the need for ongoing professional development to stay abreast of technological advancements, ethical guidelines, and best practices in telehealth. This involves participating in training programs, attending conferences, and engaging in interdisciplinary collaborations to foster a holistic understanding of the evolving field. Adapting to new technologies and service delivery models also requires mental health professionals to be attuned to the preferences and expectations of their clients. Research by Duduyemi (2022) emphasizes the importance of client-centered approaches, which involve collaboratively exploring the suitability of telehealth, addressing concerns, and ensuring that the chosen modalities align with the client's comfort and therapeutic goals. The integration of technology into psychological counseling necessitates heightened ethical considerations. Research by McKay et al. (2022) explores the ethical implications of using AI-driven tools, emphasizing the importance of transparency, informed consent, and ongoing monitoring. Mental health professionals must critically evaluate the ethical dimensions of technology use, including issues related to data security, client autonomy, and the potential impact on the therapeutic relationship. As telehealth becomes an integral aspect of mental health services, mental health professionals must be proactive in shaping the ethical framework that guides its practice (Hilty et al., 2019). Collaborative efforts with professional organizations, policymakers, and technology developers are essential to ensure that ethical considerations remain central to the evolution of telehealth in psychological counseling. Mental health professionals must embrace a proactive and adaptive mindset, staying informed about technological advancements, integrating hybrid approaches, and prioritizing ethical considerations to deliver high-quality, client-centered care in the ever-evolving landscape of telehealth.

7. Conclusions and recommendations

The examination of the historical evolution of psychological counseling, particularly the integration of telehealth, reveals a dynamic and transformative landscape. From traditional face-to-face sessions to the emergence of telehealth technologies, the field has evolved to address the changing needs and preferences of individuals seeking mental health support. The comparative studies and empirical research discussed in previous sections contribute to a nuanced understanding of the effectiveness of telehealth. While evidence suggests that telehealth can be as effective as traditional counseling across various mental health conditions, the literature emphasizes the importance of considering factors such as the type of condition, therapeutic approach, and client preferences.

Telehealth in psychological counseling offers a range of benefits, including increased accessibility, flexibility, and the potential for personalized interventions. The use of video conferencing, mobile applications, and text-based platforms caters to diverse preferences and needs, providing individuals with choices that align with their comfort levels. However, the adoption of telehealth is not without challenges. Legal and ethical considerations, security and privacy concerns, and the need for ongoing professional development present complex issues that mental health professionals must navigate. The implications of technological advancements, such as VR and AI, further underscore the need for ethical and responsible integration into counseling practices. Mental health professionals are encouraged to integrate telehealth into their practice responsibly and ethically. This involves staying informed about local and international regulations, obtaining proper licensure, and actively participating in ongoing professional development. As technology evolves, practitioners should assess the suitability of emerging tools, considering their ethical implications and impact on the therapeutic relationship. Given the diverse preferences and needs of clients, mental health professionals should consider adopting a client-centered approach when integrating telehealth. This involves collaboratively exploring the suitability of telehealth modalities, addressing concerns, and ensuring that the chosen methods align with the client's comfort and therapeutic goals. Hybrid models that seamlessly combine virtual and in-person sessions may offer a flexible solution that caters to individual preferences. Policymakers play a crucial role in establishing standardized guidelines for the ethical and legal practice of telehealth in psychological counseling. Developing comprehensive frameworks that address issues such as informed consent, data security, and cross-border service delivery will contribute to a consistent and responsible implementation of telehealth services. Collaboration with professional organizations, technology developers, and mental health professionals is essential to create guidelines that balance innovation with ethical considerations. Policymakers should actively work to address disparities in access to telehealth services. This involves initiatives to improve internet connectivity, device accessibility, and technology literacy, particularly in underserved communities. Policy interventions aimed at reducing socioeconomic barriers will contribute to a more equitable distribution of mental health services through telehealth. Future research should focus on investigating the long-term outcomes and sustainability of telehealth interventions in psychological counseling. Comparative studies that assess the effectiveness of telehealth over extended periods, considering factors such as treatment adherence and client satisfaction, will contribute valuable insights into the lasting impact of virtual interventions. Research exploring cultural considerations in telehealth is warranted. Investigating the cultural competence of telehealth platforms, understanding the impact of cultural factors on the effectiveness of virtual interventions, and developing inclusive practices that cater to diverse cultural backgrounds will enhance the accessibility and relevance of telehealth services.

The synthesis of key findings emphasizes the dynamic nature of psychological counseling, with telehealth serving as a transformative force. Recommendations for practice, policy, and future research aim to guide mental health professionals, policymakers, and researchers in optimizing the integration of telehealth into psychological counseling while addressing associated challenges and ensuring ethical and equitable service delivery.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] Adebukola, A. A., Navya, A. N., Jordan, F. J., Jenifer, N. J., & Begley, R. D. (2022). Cyber Security as a Threat to Health Care. *Journal of Technology and Systems*, 4(1), 32-64.
- [2] Adekanmbi, A.O. and Wolf, D., 2024. Solid Mineral Resources Extraction and Processing Using Innovative Technology in Nigeria. *ATBU Journal of Science, Technology and Education*, 12(1), pp.1-16.

- [3] Ahmed, H.A. & Ibisumbo, O., 2014. Factors Affecting Breastfeeding Practices in Odeda Local Government Area of Ogun State, Nigeria. *International Journal of Engineering Science and Innovative Technology (IJESIT)*, 3(1).
- [4] Alroy, A., Ben-Shushan, E., & Katz, B. (2022). *Event Success: Maximizing the Business Impact of In-person, Virtual, and Hybrid Experiences*. John Wiley & Sons.
- [5] Amjad, A., Kordel, P., & Fernandes, G. (2023). A Review on Innovation in Healthcare Sector (Telehealth) through Artificial Intelligence. *Sustainability*, 15(8), 6655.
- [6] Awoyemi, O., Attah, R.U., Basiru, J.O., and Leghemo, I.M., 2024. Advanced brand management strategies for solving market penetration and competitiveness challenges in media enterprises. *IRE Journals*, 7(7), pp.560-561.
- [7] Awoyemi, O., Attah, R.U., Basiru, J.O., and Leghemo, I.M., 2025. Data-driven marketing innovation: Solving revenue stagnation and efficiency problems in media and broadcasting sectors. *IRE Journals*, 8(7), pp.650-651.
- [8] Awoyemi, O., Attah, R.U., Basiru, J.O., and Leghemo, I.M., 2023. A technology integration blueprint for overcoming digital literacy barriers in developing world educational systems. *IRE Journals*, 7(3), pp.722-723.
- [9] Awoyemi, O., Attah, R.U., Basiru, J.O., and Leghemo, I.M., 2025. A community-policing innovation model to build sustainable trust and effectively reduce crime in urban areas. *International Journal of Multidisciplinary Research and Growth Evaluation*, 6(1), pp.848-853.
- [10] Bakker, D., Kazantzis, N., Rickwood, D., & Rickard, N. (2016). Mental health smartphone apps: review and evidence-based recommendations for future developments. *JMIR mental health*, 3(1), e4984.
- [11] Balogun, H., Jaakkola, J. & Amegah, A.K., 2019. Association of Sunlight Exposure and Consumption of Vitamin D-Rich Foods During Pregnancy with Adverse Birth Outcomes in an African Population. *Journal of Tropical Pediatrics*, 65. doi:10.1093/tropej/fmz001.
- [12] Balogun, H., Rantala, A., Antikainen, H., Siddika, N., Amegah, A.K., Rytty, N., Kukkonen, J., Sofiev, M., Jaakkola, M. & Jaakkola, J., 2020. Effects of Air Pollution on the Risk of Low Birth Weight in a Cold Climate. *Applied Sciences*, 10(6399). doi:10.3390/app10186399.
- [13] Bashshur, R. L., & Shannon, G. W. (2009). *History of telemedicine: evolution, context, and transformation*. Mary Ann Liebert, Inc., Publishers.
- [14] Butler, L., Yigitcanlar, T., & Paz, A. (2021). Barriers and risks of Mobility-as-a-Service (MaaS) adoption in cities: A systematic review of the literature. *Cities*, 109, 103036.
- [15] Chen, P. V., Helm, A., Caloudas, S. G., Ecker, A., Day, G., Hogan, J., & Lindsay, J. (2022). Evidence of phone vs video-conferencing for mental health treatments: a review of the literature. *Current Psychiatry Reports*, 24(10), 529-539.
- [16] Chiauuzzi, E., Clayton, A., & Huh-Yoo, J. (2020). Videoconferencing-based telemental health: Important questions for the COVID-19 era from clinical and patient-centered perspectives. *JMIR Mental Health*, 7(12), e24021.
- [17] Chidolue, O. and Iqbal, T., 2023, March. System Monitoring and Data logging using PLX-DAQ for Solar-Powered Oil Well Pumping. In *2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC)* (pp. 0690-0694). IEEE.
- [18] Duduyemi, A. M. (2022). *How Telehealth Has Impacted the Therapeutic Alliance During the COVID-19 Pandemic* (Doctoral dissertation, California Southern University).
- [19] Durland, L., Interian, A., Pretzer-Abhoff, I., & Dobkin, R. D. (2014). Effect of telehealth-to-home interventions on quality of life for individuals with depressive and anxiety disorders. *Smart Homecare Technology and TeleHealth*, 105-119.
- [20] Enebe, G.C., Ukoba, K. and Jen, T.C., 2019. Numerical modeling of effect of annealing on nanostructured CuO/TiO₂ pn heterojunction solar cells using SCAPS.
- [21] Ewim, D.R.E., Okwu, M.O., Onyiriuka, E.J., Abiodun, A.S., Abolarin, S.M. and Kaood, A., 2021. A quick review of the applications of artificial neural networks (ANN) in the modelling of thermal systems.
- [22] Ganapathy, S., de Korne, D. F., Chong, N. K., & Car, J. (2020). The role of text messaging and telehealth messaging apps. *Pediatric Clinics*, 67(4), 613-621.
- [23] Garrett, B., Taverner, T., Gromala, D., Tao, G., Cordingley, E., & Sun, C. (2018). Virtual reality clinical research: promises and challenges. *JMIR serious games*, 6(4), e10839.

- [24] Gogia, S. (2020). Rationale, history, and basics of telehealth. In *Fundamentals of telemedicine and telehealth* (pp. 11-34). Academic Press.
- [25] Greenwood, H., Krzyzaniak, N., Peiris, R., Clark, J., Scott, A. M., Cardona, M., ... & Glasziou, P. (2022). Telehealth versus face-to-face psychotherapy for less common mental health conditions: Systematic review and meta-analysis of randomized controlled trials. *JMIR Mental Health*, 9(3), e31780.
- [26] Hilty, D. M., Chan, S., Torous, J., Luo, J., & Boland, R. J. (2019). A telehealth framework for mobile health, smartphones, and apps: competencies, training, and faculty development. *Journal of Technology in Behavioral Science*, 4, 106-123.
- [27] Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: a 2013 review. *Telemedicine and e-Health*, 19(6), 444-454.
- [28] Hilty, D. M., Gentry, M. T., McKean, A. J., Cowan, K. E., Lim, R. F., & Lu, F. G. (2020). Telehealth for rural diverse populations: telebehavioral and cultural competencies, clinical outcomes and administrative approaches. *Mhealth*, 6.
- [29] Hossain, M. M., Tasnim, S., Sultana, A., Faizah, F., Mazumder, H., Zou, L., ... & Ma, P. (2020). Epidemiology of mental health problems in COVID-19: a review. *F1000Research*, 9.
- [30] Ikwuagwu, C.V., Ajahb, S.A., Uchennab, N., Uzomab, N., Anutaa, U.J., Sa, O.C. and Emmanuela, O., 2020. Development of an Arduino-Controlled Convective Heat Dryer. In *UNN International Conference: Technological Innovation for Holistic Sustainable Development (TECHISD2020)* (pp. 180-95).
- [31] Imoisili, P.E., Ukoba, K.O., Ibegbulam, C.M., Adgidzi, D. and Olusunle, S.O.O., 2012. Effect of Filler Volume Fraction on the Tensile Properties of Cocoa-Pod Epoxy Resin Composite. *International Journal of Science and Technology*, 2(7), pp.432-434.
- [32] Ingersoll, B., & Berger, N. I. (2015). Parent engagement with a telehealth-based parent-mediated intervention program for children with autism spectrum disorders: Predictors of program use and parent outcomes. *Journal of medical Internet research*, 17(10), e4913.
- [33] Ismail, N., Mujad, S.M., Zulkifli, M.F.R., Izionworu, V.O., Ghazali, M.J. and Nik, W.M.N.W., 2022. A review on application of marine algae as green corrosion inhibitors in acid medium. *Vietnam Journal of Chemistry*, 60(4), pp.409-416.
- [34] Keenan, A. J., Tsourtos, G., & Tieman, J. (2022). Promise and peril-defining ethical telehealth practice from the clinician and patient perspective: A qualitative study. *Digital health*, 8, 20552076211070394.
- [35] Keenan, A. J., Tsourtos, G., & Tieman, J. (2022). Promise and peril-defining ethical telehealth practice from the clinician and patient perspective: A qualitative study. *Digital health*, 8, 20552076211070394.
- [36] Keenan, A. J., Tsourtos, G., & Tieman, J. (2022). Promise and peril-defining ethical telehealth practice from the clinician and patient perspective: A qualitative study. *Digital health*, 8, 20552076211070394.
- [37] Kim, M. J., Lee, C. K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of travel research*, 59(1), 69-89.
- [38] Kvedar, J., Coye, M. J., & Everett, W. (2014). Connected health: a review of technologies and strategies to improve patient care with telemedicine and telehealth. *Health affairs*, 33(2), 194-199.
- [39] Lattie, E. G., Stiles-Shields, C., & Graham, A. K. (2022). An overview of and recommendations for more accessible digital mental health services. *Nature Reviews Psychology*, 1(2), 87-100.
- [40] Le, D. N., Van Le, C., Tromp, J. G., & Nguyen, G. N. (Eds.). (2018). Emerging technologies for health and medicine: virtual reality, augmented reality, artificial intelligence, internet of things, robotics, industry 4.0.
- [41] Leghemo, I.M., Segun-Falade, O.D., Odionu, C.S., and Azubuike, C., 2025. A collaborative model for data governance: Enhancing integration across multi-line businesses. *Gulf Journal of Advance Business Research*, 3(1), pp.47-63.
- [42] Leghemo, I.M., Azubuike, C., Segun-Falade, O.D., and Odionu, C.S., 2025. Data governance for emerging technologies: A conceptual framework for managing blockchain, IoT, and AI. *Journal of Engineering Research and Reports*, 27(1), pp.247-267.

- [43] Leghemo, I.M., Odionu, C.S., Segun-Falade, O.D., and Azubuike, C., 2024. Conceptual framework for AI-driven personalization: Implications for consumer behavior and brand loyalty. *World Journal of Advanced Research and Reviews*, 21(02), pp.2045-2062.
- [44] Leghemo, I.M., Odionu, C.S., Segun-Falade, O.D., and Azubuike, C., 2024. A model for integrating data governance and information management systems: Enhancing decision-making across industries. *World Journal of Advanced Research and Reviews*, 21(03), pp.2635-2654.
- [45] Lustgarten, S. D., & Colbow, A. J. (2017). Ethical concerns for telemental health therapy amidst governmental surveillance. *American Psychologist*, 72(2), 159.
- [46] Maduka, C. P., Adegoke, A. A., Okongwu, C. C., Enahoro, A., Osunlaja, O., & Ajogwu, A. E. (2023). Review Of Laboratory Diagnostics Evolution In Nigeria's Response To COVID-19. *International Medical Science Research Journal*, 3(1), 1-23.
- [47] Maheu, M. M., Pulier, M. L., McMenamin, J. P., & Posen, L. (2012). Future of telepsychology, telehealth, and various technologies in psychological research and practice. *Professional Psychology: Research and Practice*, 43(6), 613.
- [48] McKay, F., Williams, B. J., Prestwich, G., Bansal, D., Hallowell, N., & Treanor, D. (2022). The ethical challenges of artificial intelligence-driven digital pathology. *The Journal of Pathology: Clinical Research*, 8(3), 209-216.
- [49] Myers, K., Stoep, A. V., & Lobdell, C. (2013). Feasibility of conducting a randomized controlled trial of telemental health with children diagnosed with attention-deficit/hyperactivity disorder in underserved communities. *Journal of Child and Adolescent Psychopharmacology*, 23(6), 372-378.
- [50] Nittari, G., Khuman, R., Baldoni, S., Pallotta, G., Battineni, G., Sirignano, A., ... & Ricci, G. (2020). Telemedicine practice: review of the current ethical and legal challenges. *Telemedicine and e-Health*, 26(12), 1427-1437.
- [51] Okunade, B. A., Adediran, F. E., Maduka, C. P., & Adegoke, A. A. (2023). Community-Based Mental Health Interventions In Africa: A Review And Its Implications For Us Healthcare Practices. *International Medical Science Research Journal*, 3(3), 68-91.
- [52] Ortega, G., Rodriguez, J. A., Maurer, L. R., Witt, E. E., Perez, N., Reich, A., & Bates, D. W. (2020). Telemedicine, COVID-19, and disparities: policy implications. *Health policy and Technology*, 9(3), 368-371.
- [53] Parimbelli, E., Bottalico, B., Losiouk, E., Tomasi, M., Santosuosso, A., Lanzola, G., ... & Bellazzi, R. (2018). Trusting telemedicine: a discussion on risks, safety, legal implications and liability of involved stakeholders. *International journal of medical informatics*, 112, 90-98.
- [54] Petermann, R. (2022). The Development of Therapeutic Relationships during the Pandemic: Perceptions of Professional Counselors Using Telemental Health Apps in Rural Areas (Doctoral dissertation, Capella University).
- [55] Ratzliff, A., & Sunderji, N. (2018). Tele-behavioral health, collaborative care, and integrated care: learning to leverage scarce psychiatric resources over distance, populations, and time. *Academic Psychiatry*, 42(6), 834-840.
- [56] Segun-Falade, O.D., Leghemo, I.M., Odionu, C.S., and Azubuike, C., 2024. A conceptual framework for data governance in big data and cloud environments: Integrating security, compliance, and data quality. *International Journal of Science and Research Archive*, 12(02), pp.2984-3002.
- [57] Sen, K., Prybutok, G., & Prybutok, V. (2022). The use of digital technology for social wellbeing reduces social isolation in older adults: A systematic review. *SSM-population health*, 17, 101020.
- [58] Shaker, A. A., Austin, S. F., Storebø, O. J., Schaug, J. P., Ayad, A., Sørensen, J. A., ... & Simonsen, E. (2023). Psychiatric treatment conducted via telemedicine versus in-person modality in posttraumatic stress disorder, mood disorders, and anxiety disorders: systematic review and meta-analysis. *JMIR Mental Health*, 10(1), e44790.
- [59] Shreck, E., Nehrig, N., Schneider, J. A., Palfrey, A., Buckley, J., Jordan, B., ... & Chen, C. K. (2020). Barriers and facilitators to implementing a US Department of Veterans Affairs Telemental Health (TMH) program for rural veterans. *Journal of Rural Mental Health*, 44(1), 1.
- [60] Siddika, N., Balogun, H., Amegah, A.K. & Jaakkola, J., 2016. Prenatal Ambient Air Pollution Exposure and the Risk of Stillbirth: Systematic Review and Meta-Analysis of the Empirical Evidence. *Occupational and Environmental Medicine*, 73. doi:10.1136/oemed-2015-103086.
- [61] Siddika, N., Rantala, A., Antikainen, H., Balogun, H., Amegah, A.K., Ryti, N., Kukkonen, J., Sofiev, M., Jaakkola, M. & Jaakkola, J., 2019. Synergistic Effects of Prenatal Exposure to Fine Particulate Matter (PM2.5) and Ozone (O3) on the Risk of Preterm Birth: A Population-Based Cohort Study. *Environmental Research*, 176, p.108549. doi:10.1016/j.envres.2019.108549.

- [62] Siddika, N., Rantala, A., Antikainen, H., Balogun, H., Amegah, A.K., Ryti, N., Kukkonen, J., Sofiev, M., Jaakkola, M. & Jaakkola, J., 2020. Short-Term Prenatal Exposure to Ambient Air Pollution and Risk of Preterm Birth - A Population-Based Cohort Study in Finland. *Environmental Research*, 184, p.109290. doi:10.1016/j.envres.2020.109290.
- [63] Uscher-Pines, L., Parks, A. M., Sousa, J., Raja, P., Mehrotra, A., Huskamp, H. A., & Busch, A. B. (2022). Appropriateness of telemedicine versus in-person care: a qualitative exploration of psychiatrists' decision making. *Psychiatric Services*, 73(8), 849-855.
- [64] Weiden, P. J., Sajatovic, M., Scott, J., Carpenter, D., Ross, R., & Docherty, J. P. (2009). The expert consensus guideline series: adherence problems in patients with serious and persistent mental illness.
- [65] World Health Organization. (2001). *The World Health Report 2001: Mental health: new understanding, new hope.*