Digital Mental Health Initiatives in Nigeria - A Quantitative Interview Study

Tiffany Chen MSc,[1] **Christy Gombay** PhD.[1]

[1]McMaster University, Hamilton, Ontario, Canada

Abstract

The direct and indirect impact of the pandemic and its mitigation measures have exacerbated the global mental health crisis. Digital mental health interventions (DMHIs) may have the potential to address health system gaps and global health inequalities in low-and middle-income countries (LMICs). This article aims to map the current state of DMHIs available in Nigeria and illustrate their progress, limitations, and challenges. Twenty semi-structured interviews were conducted with mental health researchers, healthcare providers, and digital health experts. Data was analyzed using Dedoose via thematic analysis. Advantages of DMHIs include increasing efficiency, accessibility, addressing stigma, and filling the mental health service gap. Disadvantages include skepticism in DMHIs, limitations of applicability, lack of accessibility to internet and technology, lack of sustainability, and lack of infrastructure, funding, and policies. The lessons learned in the Nigerian context can inform the delivery of DMHIs in other low-resource settings. Future research should examine feedback from users and providers of DMHIs to allow for comparative analysis, more conclusive and replicable results which will in turn be helpful in making positive changes in DMHI design and implementation.

Introduction

The pandemic has increased the strain on mental healthcare systems and disproportionately impacted populations already marginalized due to poverty and socioeconomic distress [1-2]. LMICs face the largest consequences of this mental health crisis due to unequal access of mental health services being a prevalent issue before the COVID-19 pandemic [3-4]. As internet accessibility and mobile device usage continue to rise in LMICs, digital mental health interventions (DMHIs) have the potential to help with reducing healthcare inequities and filling the gap between the demand for healthcare services and access to care [5]. However, the research evidence to support DMHIs has not kept pace with the rapid growth of the digital mental health field [6]. This article aims to map the current state of DMHIs availa- ble in Nigeria and illustrate its progress, limitations, and challenges. The lessons learned in the Nigerian context can inform the implementation of safe, effective, and evidence-based DMHIs in low-resource settings.

Methods

A qualitative research design using a single case study-based approach was employed [7]. The study population of interest were individuals who play a prominent role in the fields of DMHIs and global mental health. A purposive sampling method was used to recruit study respondents [8]. The study sample consisted of mental health researchers, healthcare providers, digital health experts, and people familiar with DMHIs in Nigeria. Twenty semi-structured interviews were conducted virtually between June and

August 2022. Inductive thematic analysis was conducted using the qualitative data analysis software Dedoose [9].

Results

Advantages of DMHIs

DMHIs Addresses Mental Health Service Gap

One of the most reported strengths of DMHIs among all respondents was how DMHIs increase the efficiency for receiving mental healthcare. DMHIs have been credited to shorten the time spent requesting for a referral and waiting for an appointment as immediate contact occurs through the DMHI. One of the counsellors highlighted that certain DMHIs are also asynchronous, meaning, "it doesn't matter when you log on to the DMHI, with AI you can access services without requiring a therapist on at the same time. This means there is less delay and patients can reach out any time if there is an emergency." As a result, DMHIs have been noted for their ability to compensate for the staffing shortage and mental health service gap in Nigeria.

Task Shifting

Apart from increasing efficiency and reducing the burden on the tertiary levels of care, DMHIs also provide the opportunity for increased mental health knowledge sharing and task shifting. Trained volunteers and counsellors have been effective in providing services through that medium and overall found to be a "helpful option that connects people to other mental health resources that don't have long wait and demand."

Flexibility and Convenience

Another common benefit mentioned across social workers and digital health specialists is that DMHIs make therapy accessible to people who may not otherwise be able to receive it. Several social workers commented on how convenient and flexible DMHIs were while being beneficial to both DMHI service providers and service users. "One can comfortably sit in the bedroom, be anywhere, in the comfort of home and access your doctor." This works both ways since none of the parties have to "commute to a location, volunteers can be anywhere and still provide support."

Provision of services to rural and underserved communities

A subtheme that falls under Flexibility and Convenience of DMHIs is how DMHIs have the additional ability to provide MH services to rural and underserved communities. As mentioned by one of the social workers, "DMHIs are helpful for people who live in rural areas, have a tight work schedule, or are housebound to still receive quality mental healthcare."

Reduces barriers from stigma and shame.

All interviewees also unanimously agreed that DMHIs have been ideal for addressing issues of mental health stigma in Nigeria. As mentioned by one of the counselors, DMHIs have the potential to tackle stigma since "you don't need to walk into a physical space or mental health institution...a phone provides privacy, and you can do what you want." For certain young people, they are "much more comfortable talking about stuff like that virtually, rather than with people they know/know their family, choosing to have a therapist very far away geographically."

Disadvantages of DMHIs

Skepticism and Lack of confidence/trust in DMHI

As explained by one of the public health researchers, DMHIs are a "novel and unconventional intervention...which could lead to a lack of confidence in service delivery (counselling) and skepticism." Another global mental health researcher agreed with this viewpoint by commenting on how a "lack of

awareness and knowledge about the interventions may constitute a barrier to adoption and use".

Lack of accessibility to Internet and Technology

Numerous costs are involved with the implementation of DMHIs. According to the literature, these costs can act as challenges for the DMHI providers as well as DMHI users [10]. From the perspective of the DMHI providers, these cost concerns involve the initial investment, the maintenance of employees and the platform, and the lack of infrastructure. As observed through the participants, DMHIs that specialize in rural areas and provide access to the internet to access the intervention, lack of original infrastructure to rely on tends to result in a very expensive deployment. As described by one of the executives from LaFiya Telehealth, "we had to build the solar kiosk, internet broadband, and satellite all ourselves…it is a hard place to penetrate and is labour intensive."

Lack of Sustainability and Follow-up

DMHIs have also been viewed as a potential short-term fix to the mental health crisis, but respondents emphasize how proper counselling and mental health care also require time and sustainability. As stated by one of the occupational therapists "Once the current funding is used up, we have to think about reaching out to the community and government to get them to agree to support the DMHI since income is not constant."

Lack of Infrastructure

The lack of mental health laws and policies as well as budgeting for mental health services has been commented on by almost every interviewee. As emphasized by one of the public health pharmacists, "If we don't impr-

ove the policy surrounding digital health…such as data inscription, safety and security…we cannot continue to advance and move forward." These concerns are shared by other social workers, as DMHIs also require continuous IT support for when things inevitably require fixing and troubleshooting.

Conclusion

This study examined the current state of DMHIs among a variety of respondents from professional disciplines and health care organizations in Nigeria. The lessons learned in the Nigerian context can inform the design of new safe, effective, evidence based DMHIs and improve existing interventions. This review of the evidence along with semi-structured interviews with expert researchers and practitioners, provides stakeholders with the information necessary to make decisions about which types of places and spaces to focus on and what approaches to use for the best possible results. There is a need to leverage DMHIs within the Nigerian population for mental health promotion. Future research should examine feedback from users and providers of DMHIs to allow for comparative analysis, more conclusive and replicable results to inform DMHI design and implementation.

References

1. Ornell F, Schuch JB, Sordi AO, Kessler FHP. "Pandemic fear" and COVID-19: mental health burden and strategies. Braz J Psychiatry. 2020 Jun;42(3):232–5. https://doi.org/10.1590/1516-4446-2020-0008

2. Liu Z, Peach RL, Lawrance EL, Noble A, Ungless MA, Barahona M. Listening to Mental Health Crisis Needs at Scale: Using Natural Language Processing to Understand and Evaluate a Mental Health Crisis Text Messaging Service. Front Digit Health. 2021 Dec 6;3:779091. https://doi.org/10.3389/fdgth.2021.779091

3. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. The Lancet. 2020 Mar;395(10227):912–20. https://doi.org/10.1016/S0140-6736(20)30460-8

4. Xiang YT, Jin Y, Cheung T. Joint International Collaboration to Combat Mental Health Challenges During the Coronavirus Disease 2019 Pandemic. JAMA Psychiatry. 2020 Oct 1;77(10):989. https://doi.org/10.1001/jamapsychiatry.2020.1057

5. Boucher EM, Harake NR, Ward HE, Stoeckl SE, Vargas J, Minkel J, et al. Artificially intelligent chatbots in digital mental health interventions: a review. Expert Review of Medical Devices. 2021 Dec 3;18(sup1):37–49. https://doi.org/10.1080/17434440.2021.2013200

6. Naslund JA, Deng D. Addressing mental health stigma in low-income and middle-income countries: A new frontier for digital mental health. Ethics, Medicine and Public Health. 2021 Dec;19:100719. https://doi.org/10.1016/j.jemep.2021.100719

7. Yin RK. Case study research: design and methods. 3rd ed. Thousand Oaks, Calif: Sage Publications; 2003. 181 p. (Applied social research methods series).

8. Mays N, Pope C. Qualitative Research: Rigour and qualitative research. BMJ. 1995 Jul 8;311(6997):109–12. https://doi.org/10.1136/bmj.311.6997.109

9. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006 Jan;3(2):77–101. https://doi.org/10.1191/1478088706qp063oa

10. Nwaogu JM, Chan APC, Naslund JA, Hon CKH, Belonwu C, Yang J. Exploring the Barriers to and Motivators for Using Digital Mental Health Interventions Among Construction Personnel in Nigeria: Qualitative Study. JMIR Form Res. 2021 Nov 9;5(11):e18969.