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Digital mental health interventions in Indigenous and traditional communities of the Global South: a scoping review protocol

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Abstract

Digital mental health interventions (DMHIs) have demonstrated considerable potential to address mental health needs across diverse populations by offering scalable, adaptable, and cost-effective solutions. Nevertheless, their implementation in the Global South—particularly among Indigenous peoples and traditional communities—remains scattered and insufficiently systematised. These communities frequently face structural inequalities, limited access to formal mental health services, and distinct sociocultural frameworks that necessitate the development of culturally appropriate digital interventions. To date, existing reviews have focused predominantly on high-income countries, highlighting the urgent need to synthesise context-specific evidence from low- and middle-income settings. Therefore, this protocol outlines the design of a scoping review aimed at examining the available evidence on DMHIs targeting Indigenous peoples and traditional communities in the Global South. The scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews, and the results will be reported in line with the PRISMA-ScR guidelines. It will include articles resulting from primary research, systematic reviews, and opinion papers related to DMHIs in Indigenous and traditional populations in the Global South. No restrictions will be applied regarding the languages and year of publication. The search will be conducted in the following databases: MEDLINE, CINAHL, PsycINFO, Scopus, Embase, BVS Lilacs, African Index Medicus, and Index Medicus for the South-East Asia Region. Study selection and data extraction will be performed independently by three reviewers. The synthesis will include a numerical summary to provide an overview of the characteristics of the included studies, as well as a qualitative analysis aimed at identifying, analysing, and reporting recurring patterns and emerging categories within the data. The results will inform the development of future culturally competent digital mental health strategies tailored to the needs of Indigenous and traditional communities in the Global South.

Keywords

digital health, mental health, Indigenous peoples, ethnic and racial minorities, low- and middle-income countries, Global South

Introduction

The global expansion of digital technologies has significantly transformed health systems, introducing new modalities of care delivery, particularly in the field of mental health. Digital mental health interventions (DMHIs), understood as psychosocial interventions delivered through digital formats [1]—including teleconsultation or telepsychiatry, mobile applications, online therapy platforms, chatbots, virtual reality, and generative artificial intelligence [2]—have demonstrated a positive impact on mental health care [3, 4]. DMHIs have been valued, among other factors, for their flexibility, scalability, and ability to address needs related to mental health promotion, prevention [5, 6], and clinical management of mental disorders [7, 8].

In addition, DMHIs represent a promising alternative for strengthening the provision of mental health services in contexts characterised by geographical barriers, shortage of professionals, stigmatisation, or high costs of care [9]. However, their effective development and implementation require addressing key challenges to ensure equitable access at a global level. These include disparities in digital infrastructure, limitations in connectivity, affordability, and digital literacy [10, 11], as well as the inadequate or limited integration of cultural perspectives in intervention design [12, 13]. Failure to adequately consider these factors may compromise the relevance and effectiveness of DMHIs, especially among marginalised and culturally diverse populations [2].

This concern is particularly salient in the case of Indigenous peoples and traditional communities in the Global South. The term "Global South" refers to a geopolitical category encompassing low- and middle-resource settings, predominantly located in Africa, Latin America, Oceania, and Asia, which share structural conditions rooted in historical and economic inequalities within the global system [14]. These conditions are reflected across multiple domains, including limited access to, development of, and adaptation of digital health technologies [15].

The Indigenous peoples and traditional communities in the Global South are characterised by collective ties to ancestral territories, distinct sociocultural systems, autonomous governance structures, and traditional practices of care and wellbeing [16]. However, they often face structural conditions that make them particularly vulnerable to psychosocial distress [17, 18]. Evidence indicates that these communities are disproportionately exposed to multiple risk factors, including historical and ongoing marginalisation, poverty, violence [19], environmental displacement and land dispossession [20], and limited access to essential services [21, 22]. These social determinants of mental health intersect with cultural frameworks that often differ markedly from Western biomedical models.

In addition, these communities face considerable barriers in accessing formal mental health services, as they are often located in rural or remote areas with limited health infrastructure and little or no availability of specialised mental health services [23]. Even where such services exist, they are frequently grounded in standardised biomedical approaches, with limited sensitivity to cultural beliefs, community structures, and local healing practices [24, 25]. This misalignment contributes to low coverage, institutional distrust, and the persistence of unmet psychosocial needs. Therefore, mental health interventions targeting these populations must be not only technically sound but also culturally appropriate, contextually relevant, and inclusive of local knowledge and practices [25].

In recent years, particularly following the COVID-19 pandemic, there has been an increase in studies incorporating remote consultations, materials in local languages, or hybrid approaches that integrate digital technologies with traditional knowledge systems among these populations. For instance, in Mexico, interventions have delivered mobile-based mental health support incorporating the local Mayan language [26]; in South Africa, studies have examined the involvement of young people in the design and

acceptability of digital, community-based mental health solutions adapted to traditional communities in rural settings [27, 28]. However, this body of evidence remains scattered and poorly systematised.

To date, systematic reviews of DMHIs targeting Indigenous populations or traditional communities have focused predominantly on high-income countries such as Canada, Australia, the United States, and New Zealand [29–35]. Findings from these reviews have highlighted the importance of culturally contextualised design [30–32], the use of participatory approaches [31, 32, 34], the integration of digital sovereignty principles [29], the adoption of the digital interventions [33], and specific processes employed in their development [35]. However, evidence concerning the scope, nature, and cultural relevance of DMHIs implemented in Indigenous and traditional communities in the Global South remains largely unsynthesized. Directly extrapolating findings from Global North contexts to Global South settings is inadequate, due to profound cultural, economic, political, and technological differences that require specific and context-sensitive approaches.

A preliminary search of MEDLINE, the Cochrane Database of Systematic Reviews, and the Joanna Briggs Institute (JBI) Evidence Synthesis database did not identify any existing or ongoing scoping reviews or systematic reviews that specifically address DMHIs targeting Indigenous peoples and traditional communities in the Global South. This gap underscores the need for a scoping review that maps the types of DMHIs, their purposes, development, criteria for cultural relevance, and outcomes across countries in Africa, Asia, Oceania, and Latin America.

Given the emerging, diverse, and poorly systematised nature of this field of inquiry, a scoping review constitutes the most appropriate methodological approach [36], as it allows for the comprehensive description of the breadth and characteristics of available evidence in complex and culturally diverse contexts. The aim of the planned scoping review is to examine the existing evidence on DMHIs targeting Indigenous peoples and traditional communities in the Global South. Specifically, the review seeks to address the following questions:

1. What types of DMHIs have been implemented with Indigenous peoples and traditional communities in the Global South?
2. For what mental health purposes or needs—such as mental health promotion, prevention, diagnosis, or treatment of mental conditions—have these DMHIs been used?
3. How have these DMHIs been developed and/or culturally adapted for Indigenous and traditional populations?
4. What outcomes—clinical, psychosocial, or implementation-related—have been reported in relation to these DMHIs?

Materials

This scoping review will be conducted in accordance with the JBI methodology for scoping reviews [36]. Reporting will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines [37].

A scoping review approach was selected as it is particularly suited to mapping the breadth and nature of available evidence in areas that are emerging, under-researched, or complex. This methodology allows for the inclusion of diverse study designs—quantitative, qualitative, and mixed methods—as well as opinion-based or non-empirical sources that may not meet the inclusion criteria of systematic reviews. Such flexibility is especially relevant when examining interventions implemented in culturally and geographically diverse contexts, where local knowledge and informal documentation may be central sources of information.

Inclusion and exclusion criteria

To guide the development of a comprehensive search strategy, the Population, Concept, Context (PCC) framework, as recommended by JBI, was used [36]. This framework was used to formulate appropriate

inclusion criteria for identifying relevant literature. The specific inclusion criteria, based on the PCC strategy, are presented in Table 1.

Table 1. Inclusion and exclusion criteria.

Component	Description
P—Population	Indigenous and traditional communities of the Global South. This includes: • Indigenous peoples: communities that maintain historical continuity with pre-colonial or pre-settler societies, possess distinct sociocultural systems, and self-identify as Indigenous based on shared ancestry, language, traditions, and a collective sense of identity and belonging. • Traditional communities: culturally diverse ethnic groups that maintain ancestral social structures, spiritual and linguistic traditions, and territorial ties, but are not formally recognised as Indigenous or do not self-identify as such. Examples include Adivasi (India), Zulu (South Africa), or Quilombolas (Brazil). All age groups are considered eligible, including children, adolescents, adults, and older adults. Studies will be included even if Indigenous or traditional communities are not the sole focus of the sample, as long as these populations are clearly represented—for example, through the reporting of ethnicity in the description of participants' sociodemographic characteristics.
C—Concept	Digital mental health interventions, including the development, use, implementation, and evaluation of technologies such as mobile health applications, telepsychiatry, chatbots, video games, virtual reality, and other digital tools designed to promote mental well-being, prevent or manage mental health conditions, support diagnosis, or deliver psychosocial care. Mental health conditions include depression, anxiety disorders, trauma-related disorders, and substance use disorders—notably alcohol use disorder—which are frequently reported among Indigenous peoples and traditional communities [38].
C—Context	Global South, broadly understood as low- and middle-income settings or historically colonised regions, primarily located in Latin America, Africa, Oceania, and Asia. The focus is on countries with a significant presence of Indigenous peoples and traditional communities, such as Mexico, Guatemala, Colombia, Peru, Bolivia, Brazil, Chile, Paraguay, Kenya, Tanzania, South Africa, Namibia, India, Nepal, Indonesia, the Philippines, Papua New Guinea, and other Pacific Island nations such as Fiji, Samoa, and Vanuatu. China will be excluded from this review, as it is considered the world's second-largest economy.

Types of sources and databases

This scoping review will include quantitative, qualitative, and mixed-methods studies. Quantitative studies may encompass experimental and quasi-experimental designs (such as randomised controlled trials, non-randomised controlled trials, pre-post studies, and interrupted time series), as well as analytical and descriptive observational studies (including cohort studies, case-control studies, cross-sectional studies, case series, and individual case reports).

Qualitative studies will include those employing methodologies such as phenomenology, grounded theory, ethnography, qualitative description, action research, oral history, and case study.

Systematic and literature reviews that meet the inclusion criteria and are relevant to the research question will also be considered, along with text and opinion papers that offer conceptual or methodological contributions to the objectives of this review. Grey literature and conference abstracts will be excluded.

Studies will be identified through a systematic search in the following databases: MEDLINE (PubMed), CINAHL (EBSCO), PsycINFO, Scopus, Embase, BVS Lilacs, African Index Medicus (AIM), and Index Medicus for the South-East Asia Region (IMSEAR).

Language and time frame

Studies published in any language will be considered for inclusion, with no exclusions based on language. This decision reflects the geographical and multicultural scope of the review, which focuses on Indigenous and traditional communities in the Global South, many of which are located in regions with diverse linguistic contexts. While the research team is proficient in English, Spanish, Portuguese, and German, translation tools or support will be used as needed to ensure that relevant studies in other languages are not excluded.

Similarly, no restrictions will be applied regarding the date of publication. All studies identified through the search strategy, regardless of the year of publication, will be considered for inclusion to ensure a comprehensive mapping of the available evidence on the topic.

Procedure

This scoping review will be conducted in four consecutive stages: (1) identification of studies; (2) study selection; (3) data extraction; and (4) data analysis. This structured approach facilitates a comprehensive mapping of diverse and contextually situated evidence on DMHIs targeting culturally diverse populations across the Global South.

Stage 1: Identification of studies

The identification of potentially relevant studies for inclusion in the synthesis will be carried out through a systematic search, following a structured three-step search strategy recommended by the JBI methodology [36]:

- Step 1: Preliminary search. An initial limited search was conducted in MEDLINE and CINAHL to identify relevant literature on the topic. Titles, abstracts, and indexing terms retrieved from this search were used to define the search descriptors, MeSH terms, and CINAHL subject headings (Table S1), as well as the full search strategy, which was reviewed by an expert librarian (Table S2). This information will serve as the basis for developing a comprehensive search strategy to be adapted to the relevant databases and information sources in the subsequent stages.
- Step 2: Database-specific search. The full search strategy will be adapted to each selected database and information source by identifying the appropriate controlled vocabulary (e.g., MeSH, CINAHL headings) and incorporating all relevant keywords and index terms.
- Step 3: Additional sources. The reference lists of all included articles and relevant systematic reviews will be manually screened to identify additional studies. Citation tracking (both backward and forward) will also be employed to capture relevant literature not retrieved through the database searches. Additionally, Elicit (Elicit Research, CA, USA) will be used to identify potentially relevant studies that may not be captured through traditional search strategies.

Stage 2: Study selection

Following the execution of the search strategy across the selected databases, all identified citations will be consolidated and imported into EndNote 21 (Clarivate Analytics, PA, USA). Duplicate records will be identified and removed at this stage. All remaining references will then be uploaded to the online systematic review platform Rayyan (Rayyan Systems Inc., MA, USA) to facilitate the screening process.

A pilot screening of five randomly selected studies will be conducted to ensure consistency in the application of the inclusion criteria. Subsequently, three independent reviewers (SEAM, JCSC, and RH) will screen all titles and abstracts to assess their relevance according to the predefined eligibility criteria. Studies considered potentially relevant will be retrieved in full for further examination. The full texts of the selected sources will be reviewed independently by the same three reviewers to confirm their eligibility. Reasons for excluding studies at this stage will be clearly documented and reported in the final scoping review. Any discrepancies or disagreements arising during the selection process—whether at the title/abstract or full-text screening stage—will be resolved through discussion. If consensus cannot be reached between two reviewers, a third reviewer will be consulted. In cases where additional information is required, study authors will be contacted via email, with up to two follow-up attempts.

The complete selection process, including the number of studies identified, screened, included, and excluded (along with reasons for exclusion), will be fully reported in the final review and presented in a PRISMA-ScR flow diagram.

Stage 3: Data extraction

Data from all included sources will be extracted by one primary reviewer (SEAM) using a structured extraction form specifically developed for this study, based on the objectives and inclusion criteria of the review and aligned with the JBI Manual for Evidence Synthesis [36]. A draft version of the data extraction tool is provided in Table S3.

To ensure reliability and consistency, the extraction form will be independently piloted on a sample of included studies by all three reviewers (SEAM, JCSC, and RH). The tool will be refined iteratively during the extraction process as necessary, and any modifications will be documented and reported in the final review.

To maintain methodological rigour while optimising resources, a second reviewer (JCSC or RH) will verify a subset (e.g., 20–30%) of the extracted data for accuracy and completeness. Any discrepancies or uncertainties will be resolved through discussion among the reviewers. If needed, study authors will be contacted to obtain missing or additional data.

Stage 4: Data analysis

The data analysis will include both a descriptive numerical summary and a qualitative thematic analysis, aligned with the objective and specific questions of the review. The numerical summary will provide an overview of the characteristics of the included studies, such as types of study design, year of publication, geographical distribution, target populations, and types of DMHIs implemented.

In parallel, a qualitative synthesis will be conducted to identify, analyse, and report recurring patterns and categories emerging from the data. Where applicable, subcategories may be generated inductively during the analysis to reflect relevant contextual or cultural nuances in the interventions reviewed.

Expected results

This scoping review is expected to generate a comprehensive map of the available evidence on DMHIs targeting Indigenous peoples and traditional communities in the Global South. By synthesising diverse sources across methodological approaches and geographical regions, the review will identify the range, characteristics, and cultural relevance of DMHIs implemented in these populations.

The results will include a descriptive summary of the types of DMHIs identified, detailing their digital modalities—such as mobile applications, chatbots, telepsychiatry, or virtual reality—and the formats through which they are delivered. In addition, the review will classify the mental health purposes addressed by these interventions, including prevention, early intervention, treatment, and well-being promotion. It will also provide an overview of the development processes and cultural adaptation strategies used, with particular attention to participatory design, linguistic and symbolic adaptation, and the integration of traditional knowledge systems.

Furthermore, the review will summarise reported outcomes associated with these interventions, categorised as clinical (e.g., symptom reduction), psychosocial (e.g., empowerment, stigma reduction), or implementation-related (e.g., acceptability, feasibility, scalability). Finally, the study will identify knowledge gaps, methodological limitations, and areas where further research or culturally competent innovation is needed. These findings are expected to inform researchers, practitioners, and policymakers in the development of contextually relevant digital mental health strategies for underserved and culturally diverse settings. Ultimately, the review aims to contribute to advancing equity in global mental health and to strengthening the evidence base for inclusive digital health solutions.

Abbreviations

DMHIs: digital mental health interventions

JBI: Joanna Briggs Institute

PCC: Population, Concept, Context

PRISMA-ScR: Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews

Supplementary materials

The supplementary tables for this article are available at: https://www.explorationpub.com/uploads/Article/file/101161_sup_1.pdf.

Declarations

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Author contributions

SEAM: Conceptualization, Methodology, Writing—original draft, Writing—review & editing. JCSC and RH: Writing—review & editing. CS: Supervision, Validation, Writing—review & editing. All authors read and approved the submitted version.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical approval

Not applicable.

Consent to participate

Not applicable.

Consent to publication

Not applicable.

Availability of data and materials

Not applicable.

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Publisher's note

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