CHEIKH ANTA DIOP UNIVERSITY OF DAKAR (UCAD)
Senegal

INSTITUTE OF HEALTH AND DEVELOPMENT (ISED - UCAD)
Senegal

Beyond Access: How Are Communities Engaged in Digital Mental Health Interventions in Low- and Middle-Income Countries?



Kadidiatou DIARRA [1,2*]

[1] Department of Preventive Medicine and Public Health, Faculty of Medicine, Pharmacy and Dentistry, Cheikh Anta Diop University of Dakar (UCAD), Dakar, Senegal.
[2] Institute of Health and Development (ISED), Cheikh Anta Diop University of Dakar (UCAD), Dakar, Senegal.
* Correspondence: **kadidiatou.diarra@ucad.edu.sn**

1. INTRODUCTION – OBJECTIVES

Community engagement may improve the relevance, acceptability, and sustainability of digital mental health interventions, yet how communities participate in their development and implementation remains unclear.

Objectives

1. Examine levels and modalities of community participation in digital mental health interventions in LMICs.
2. Describe their variation across intervention phases and study characteristics.

2. METHODOLOGY

Study design and analysis

We conducted an exploratory secondary analysis of 110 studies from an international scoping review. Participation was classified by the highest documented level: none, consultation, user adaptation, co-design, co-implementation, or non-classifiable, and further grouped as consultative/adaptive or collaborative. We explored using Fisher's exact tests with Monte Carlo simulation (100,000 replicates) among 106 classifiable studies.

Study selection and data extraction

The selection of studies and data extraction were performed by a first reviewer, using predefined eligibility criteria and a standardized extraction grid. A second reviewer independently verified the selection process and the reliability of the extracted data.

Study selection flowchart

- 5,045 records identified (through database searching)
- ↓ 1,049 duplicates removed
- ↓ 3,996 records screened (title and abstract)
- ↓ 116 full texts assessed for eligibility
- ↓ **110 studies included in the secondary analysis**

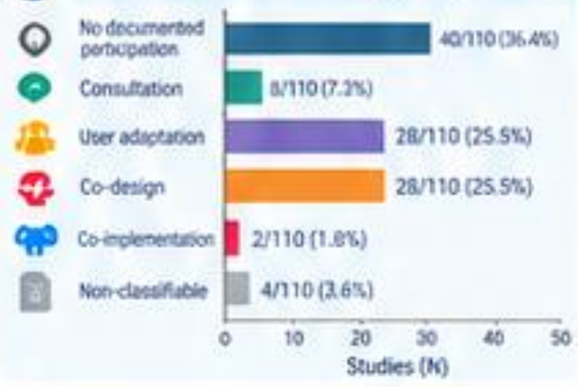
Classification of community participation (highest level documented)

None	No community involvement	Consultative/adaptive
Consultation	Communities consulted (e.g. needs, feedback)	Consultative/adaptive
User adaptation	Adaptation with user input	Consultative/adaptive
Co-design	Joint development of the intervention	Collaborative
Co-implementation	Joint implementation with communities	Collaborative
Non-classifiable	Insufficient information	

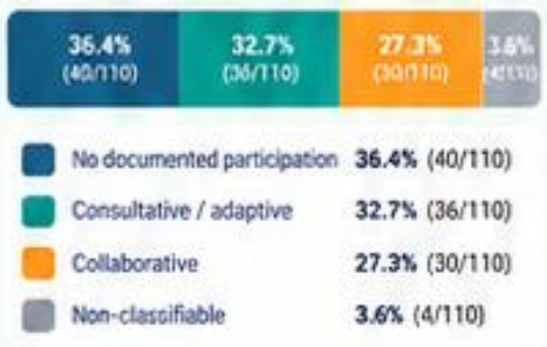
3. RESULTS

Community participation: levels, phases and engagement (N = 110)

A. Detailed levels of community participation



B. Grouped levels of community participation



D. Reported intervention phases



E. Community involvement and cultural adaptation

45.5% — Peer / community-actor involvement — 50/110 studies

65.5% — Cultural adaptation — 72/110 studies

Community participation by intervention characteristics (N = 110)

C. Digital modality

Digital modality	Total n	None n (%)	Consultative/ adaptive n (%)	Collaborative n (%)	Non-classifiable n (%)
Interactive applications/ technologies	31	10 (32.3)	8 (25.8)	**13 (41.9)**	0 (0.0)
Remote communication	22	10 (45.5)	3 (13.6)	**9 (40.9)**	0 (0.0)
Hybrid	25	7 (28.0)	11 (44.0)	4 (16.0)	3 (12.0)
Webplatform	32	13 (40.6)	14 (43.8)	4 (12.5)	1 (3.1)

Fisher's exact test (Monte Carlo): **p = 0.029.**

F. Implementation scale

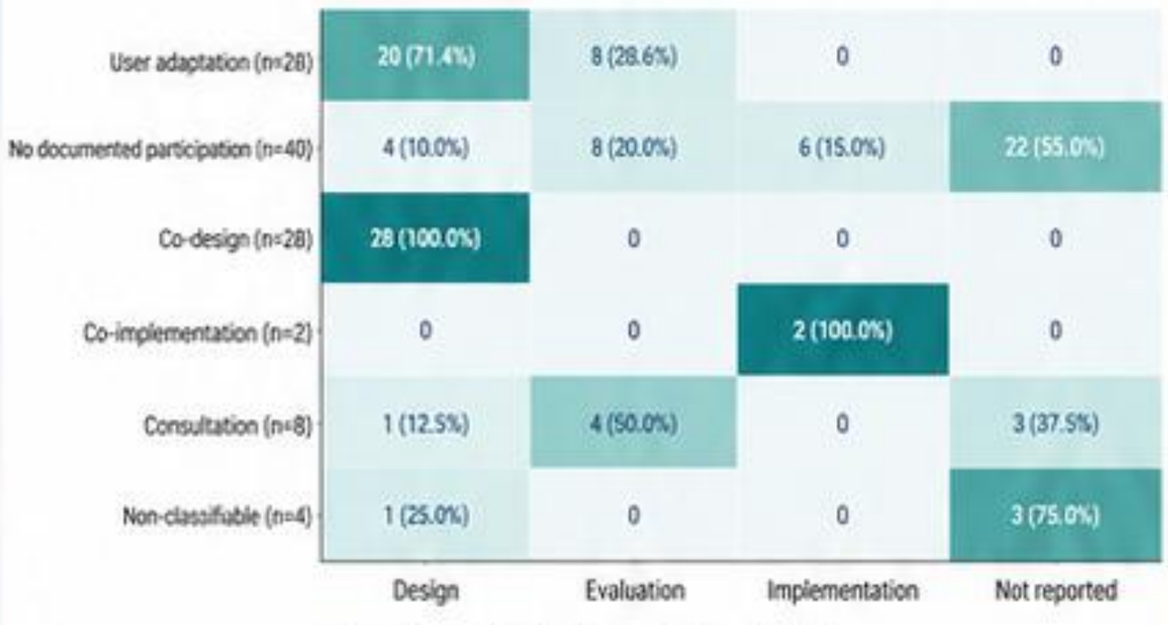
	Total n	None n (%)	Consultative/ adaptive n (%)	Collaborative n (%)	Non-classifiable n (%)
Local	69	27 (39.1)	19 (27.5)	21 (30.4)	2 (2.9)
National	23	6 (26.1)	11 (47.8)	4 (17.4)	2 (8.7)
Regional	5	0 (0.0)	1 (20.0)	**4 (80.0)**	0 (0.0)
Multi-country	13	7 (53.8)	5 (38.5)	1 (7.7)	0 (0.0)

Fisher's exact test (Monte Carlo): **p = 0.038.**

None · Consultative/adaptive · Collaborative · Non-classifiable

Percentages are calculated within each characteristic category. Row percentages may not total 100%, because percentages are due to rounding.

Participation level by reported intervention phase



Cell percentages are calculated within each participation level (row).

Discussion

Community participation in digital mental health interventions across LMICs remains uneven, with co-implementation rarely documented (1.8%), underscoring the importance of sustained stakeholder engagement (Chipps et al., 2012).

Participation was mainly reported at the design stage (49.1%), compared with implementation (7.3%), suggesting limited documentation of engagement beyond intervention development (Ospina-Phillos et al., 2025).

Although cultural adaptation was common (65.5%), it should not be equated with collaborative decision-making (Maloney et al., 2020; Zemestani et al., 2022).

Participation levels were associated with digital modality (p = 0.029) and implementation scale (p = 0.038). These exploratory findings do not establish causality.

4. CONCLUSIONS

- Community engagement remains heterogeneous and is documented more often during design than implementation.
- Cultural adaptation and community-actor involvement do not necessarily indicate shared decision-making.
- Sustained participation across intervention phases warrants greater attention.

5. REFERENCES

1. Chipps J, et al. Developing telepsychiatry services in KwaZulu-Natal. *Afr J Psychiatry*. 2012;15:255–263. doi:10.4314/ajpsy.v15i4.33
2. Ospina-Phillos L, et al. Implementing digital tools for mental health support in young individuals in Colombia. *JMIR Form Res*. 2025;9:e09749. doi:10.2196/69749
3. Maloney CA, et al. Jamaican adolescents' receptiveness to digital mental health services. *Internet Interv*. 2020;21:100325.
4. Zemestani M, et al. Culturally adapted ideation group ACT for Iranian adolescent females. *Contextual Behav Sci*. 2022;25:145–152. doi:10.1016/j.cbs.2022.08.001

6. ORCID & CONTACT

ORCID
0009-0001-3651-0462

Correspondence
kadidiatou.diarra@ucad.edu.sn