Mobile App to Prevent Depression in the Dominican Republic: Sociocultural Adaptations and International Collaborations

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Learning objectives

1) Explain rationale for developing a mobile application (app) intervention
2) Describe 5 sociocultural and linguistic considerations in adapting an evidence-based therapy for mobile app

… to prevent depression among primary care patients in Dominican Republic (DR)
Depression globally
(World Health Organization, 2017)

Affects 300+ million people of all ages

Leading cause of disability

4th leading contributor of disease burden

Treatment exists, but not always accessible
Potential for public health to be supported by mobile devices (mHealth) in DR

Unmet mental health care needs access, affordability, stigma <1% healthcare funding

85% mobile use

Needed: research on sociocultural adaptations of mHealth in low-resource
Present study findings on the sociocultural adaptation of an evidence-based face-to-face cognitive behavioral therapy (CBT)* delivered via a mobile app to treat depression among patients in DR

Methods - Context

4+ year collaboration between mental health professionals in DR and US

Government-sponsored primary care clinic in Santo Domingo

Spanish-language Patient Health Questionnaire (PHQ-9)

purposive sample of participants with depression symptoms
Methods - Respondents & assessments

Experienced, Spanish-speaking interviewers (n=3)

Interviewees, n=24 (14 patients, 10 clinic staff)

Semi-structured interviews (45 min, $250RD)

demographics

mental and physical health

use of mental health care services
Methods - Participant feedback on audio modules

Structured feedback on Spanish-language modules:

- message content
- voice gender preferences (woman vs man)
- emotional resonance with their mental health needs
- length, clarity, and comprehension
Methods - Data collection & analysis

Interviews iteratively adapted as participant views offered new areas of inquiry

Reviewed and systematically analyzed survey data using descriptive techniques, e.g.:

- demographics
- health history
Results - Participant profiles

Mean age = 37 years, 68% women

25% scored at least “moderate” depression symptoms

Some disclosed mental health challenges

   n=5 had depression on PHQ-9, n=8 reported service use

In-person therapy strongly preferred over medications

Nearly all:

   owned cell phones, mostly smartphones
Results - Participant feedback on app features

Consensus: messages could help manage stress

Popular preferences:

female voice ("calming", "reassuring")

doctors → male voice

informal greetings

receiving messages multiple times daily or weekly
Wording matters: religious cultural norms

**Changed wording**

Meditation “relaxing” but concerning implied religiosity misunderstandings

Substitution: “relaxation”

**Kept wording**

“Darle gracias a Dios que ha cumplido otro día de su programa de salud!”

“Thank God you have completed another day of your health program!”
Conclusion - Collaboration, interest & feedback

International collaboration

accessing target population, clinic staff

interdisciplinary, culturally-responsive research

Strong participant enthusiasm for mobile app offering

preventative cognitive behavioral strategies for depression symptoms
Moving forward: contributions of study findings

Proof-of-concept study being conducted to assess:

- acceptance
- feasibility
- perceived helpfulness
- preliminary depression outcomes

Addressing literature gaps on voice-based mHealth interventions