CA-LEND Leadership Project
Final Presentation

Evaluating Novel Modalities for Self-Monitoring Among Low Literacy Populations: A Feasibility Study

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ABSTRACT

This manuscript, submitted to the *Journal of Immigrant and Minority Health*, presents a 6-week feasibility study involving 18 Spanish- and Mixtec-speaking women with low or no literacy and a BMI over 25. Conducted on California's Central Coast, the study evaluated the acceptability of three self-monitoring modalities—written diaries, photo logs, and audio recordings—within a culturally tailored nutrition intervention. Weekly group sessions focused on healthy eating and behavior change. Designed with a family-centered lens, the intervention aimed to empower women—often primary caregivers—to extend health knowledge to their children, extended families, and broader community networks. This interdisciplinary project, bringing together experts in nutrition, psychology, and clinical care, applied a DEI lens through collaboration with Herencia Indígena and other Santa Maria-based organizations to honor and incorporate Mexican and Mixteco cultural values, language, and lived experience. The study aims to inspire broader, community-driven research and culturally responsive care models.

Project Plain Language Summary

This manuscript reviews a 6-week feasibility study conducted with 18 Spanish- and Mixtec-speaking women with low or no literacy and a BMI over 25. The study evaluated the use of three self-monitoring modalities—written diaries, photo logs, and audio recordings—as part of a culturally tailored, healthy eating and weight-loss intervention. Participants were recruited from a nonprofit mobile clinic serving uninsured women to attend a weekly group session focused on nutrition, behavior change, and lifestyle habits, delivered by a trained research assistant. Adherence to the assigned self-monitoring method was assessed weekly, and participants received individualized feedback following each session. Pre- and post-intervention assessments measured changes in weight, body composition, and diet quality to explore the feasibility of self-monitoring strategies in underserved, low-literacy populations.

Brief Rationale and/or Background for Project

- The treatment of overweight and obesity remains an urgent priority in advancing health equity as it disproportionately affects racial and ethnic minorities
- There is a paucity of research on effective weight loss strategies and cognitive behavioral therapy tailored for individuals with low literacy and limited English proficiency
- Self-monitoring is key in managing obesity and other nutrition-related chronic diseases. For health equity, it's crucial to understand how this group documents their intake.
- The Mixtec population, with its oral language and lack of a standardized written form, remains an understudied and underserved group in health research.

Literature Review Summary

- Self-monitoring is a cornerstone of cognitive-behavioral therapy (CBT) for weight loss, helping individuals increase awareness of eating habits, identify triggers, and track progress, which are essential for sustained behavior change and achieving long-term weight management goals

- Traditional self-monitoring tools, such as food diaries or digital apps, often require advanced literacy and numeracy skills, which can pose significant barriers for low-literacy individuals, leading to lower adherence rates

- Simplified, visual, or audio-based self-monitoring tools (e.g., picture-based food logs or voice-recording apps) have shown promise in improving engagement and tracking behaviors in populations with limited literacy skills

Presentation of Project

- **Final product**
  - Manuscript for submission to the *Journal of Immigrant and Minority Health*
- **Intended audience**
  - Healthcare providers and professionals who serve individuals with low literacy
  - Specifically targeting those on the Central Coast of California who work with immigrant and minority populations
- **What is the proposed impact?**
  - Inspire future research studies focused on this patient population
  - Encourage pilot study with larger sample size and more rigorous study parameters to better understand the challenges faced by this population
- **Anticipated barriers to maximum dissemination?**
  - Current climate and fear around discussing this patient population
  - Engage local community organizations to support dissemination

Alignment with LEND Values (Consultation w/ SA, FS, DEI)

- **Family- and Person-Centered Perspective**
  - Consult with Family Support Scholars to understand the impact of limited literacy and language barriers on family dynamics and health
- **Interdisciplinary Perspective**
  - Collaboration between clinical psychologist, nutrition faculty, dietitians; welcome input from all disciplines
  - Explore systemic inequities in weight loss and health opportunities across diverse populations
- **Health Equity Perspective**
  - Collaborate with *Herencia Indígena* to amplify Mixteco voices, accounting for cultural values, traditions, and dialects

Community (Title V) Agency Interface

- Maternal & Child Health Bureau
  - **Women, Infants & Children (WIC)**
    - Discussed with former preceptor about current interventions and methods for providing education to participants
    - What screening tools for low-literacy are currently in use?
  - **Santa Maria Community Health Centers**
    - Intended to promote awareness of low-literacy needs in the community and advocate for appropriate, accessible deliverables

Lessons Learned/ Next Steps

- Embrace collaboration!
- Returning to an old data set after some time away may feel rusty, so take it as an opportunity to refresh your skills
- Review the raw data and discuss impact of adjustments for confounding factors before making any modifications, considering the small sample size
- Next steps:
  - Finalize current draft and submit for publication!
  - Goal is to submit for initial review by the end of May

Questions for Audience/ Invitation for Feedback

- Any and all suggestions for future research welcomed!
- What are limitations future research should avoid?
- How can this final product best be applied or shared to advance health outcomes?
- How can I improve my approach to leveraging data on Spanish-speaking Mexican populations to address shared challenges such as limited health access and literacy barriers, while also respecting and preserving the distinct cultural identity of Mixteco communities, especially given the limited literature available?

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