

The feasibility of digitalizing health promotion intervention to reduce breast cancer risk among Chinese American women

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Introduction

Purpose: This project aims to test the feasibility of a 6-month RCT intervention to reduce central obesity, promote a healthy lifestyle, and breast cancer prevention among Chinese American women from an urban city in northern California.

Background: Studies have found that assimilation stress and obesity are associated with an increased risk of breast cancer in Chinese American women.

Smartphone-based interventions provide a convenient platform for participants to engage in healthy lifestyles.

Asian American women have the highest rate of smartphone ownership compared to women of other racial/ethnic backgrounds.

Conclusion

- Using smartphones and phone apps can be feasible to deliver community-based health promotion intervention to the minority community where most participants have limited English proficiency.
- Providing regular reminders and support help keep participants completing the education modules.
- Limitations:
 - Study recruitment and follow-up were interrupted during the Covid-19 pandemic when the shelter-in-place ordinance was in place.
 - The face-to-face contact helped engage and motivate the participants to continue the project and wear the wearable device. However, the in-person contact needed to be discontinued.

Results

Phase I:
3 community volunteers and 2 clinicians participated in the advisory board to review the content outlines of educational modules.

Phase II:
Participants: 18 women completed the pilot study. The average age was 40.7 years, and the average years in school were 12.7 years. 78% of the participants were married, and 50% self-identified as having a chronic illness condition.
Adherence: 90% of the participants completed the educational modules.
Weekly steps: On average, the invention group (n=10) had 6500 more weekly steps than the control group (n=8).
Body weight: There was only a slight decrease during the 3 months among intervention participants (-0.01Kg)
Waist Circumference: The waist circumference was decreased by 2.42 cm during the 3 months.

Methodology

Phase 1--Refine and develop intervention modules with an advisory committee panel to review the module content to ensure cultural appropriateness and scientific rigor.

Phase 2- Recruit Chinese American women from the community for the feasibility testing of the intervention. Women who were 18 years older, premenopausal, had a child under 18 years old, had a waist circumference greater than 80 cm, and owned a smartphone were invited to participate in the project.

All study materials and intervention modules were provided in both Chinese and English.

Materials

The intervention includes 12 weekly educational modules delivered through a social networking app, a wearable device to track daily activity, and biweekly individually tailored reminder messages.

The concepts of the 12-week intervention were based on the Social Cognitive Theory (SCT) and an adaptation of a Healthy Mothers Healthy Children program (Chen. JL).

Educational modules were developed by the research team based on up-to-date literature and translated into Chinese. Modules were recorded as video files.