Development and Preliminary Evaluation of a Culturally Tailored Web-based Physical Activity Promotion Program

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Background

- Asian American midlife women at high risk of chronic diseases due to physical inactivity
- Asian cultures – devaluation of physical activity (PA)
- Necessities to change their cultural attitudes toward PA through accurate information and support
- Low success rates of the existing PA promotion interventions
  - Not incorporating ethnicity-specific attitudes toward PA
  - being designed without a strong theoretical foundation
Significance

- Promotion of PA among Asian American women
  - A low cost way to prevent CVD occurrence
  - Higher protective effects than for other ethnic groups

- Driven by a comprehensive model
  - Midlife Women’s Attitudes toward Physical Activity model (Im, Stuifbergen, & Walker, 2010)

- Evaluation of the first theory-driven Internet interventions culturally tailored to Asian American midlife women
Purpose

- To develop and preliminarily evaluate a culturally tailored Web-based Physical Activity Promotion Program (WPAPP) for Korean American midlife women through a usability test and an expert review.
Theoretical Framework - MAPA Model

Midlife Women’s Attitudes toward Physical Activity

- Background Characteristics
- Health & Menopausal Status

Midlife Women’s Participation in Physical Activity

- Self-efficacy
- Perceived Barriers
- Social Influence

Contexts of Daily Lives
Web-based Physical Activity Promotion Program (WPAPP)

- Why a Web-based intervention?
  - Preference to not traveling outside of their home or community among Asian Americans

- Culturally tailored to Asian American midlife women
  - Ethnicity-specific predictors of the women’s PA experiences
  - Moderation of the program by culturally matched interventionists
  - Culturally sensitive and relevant educational contents

- Theory-driven program
WPAPP at a Glance

Interactive online message board

Interactive online educational sessions

Online resources

Coaching/Support Information/Knowledge

Attitudes

Self-efficacy

Perceived barriers

Social influences
Welcome to WPAPP website.

Partially due to high inactivity rates, midlife women including ethnic minority midlife women have been reported at increased risk of cardiovascular diseases, type 2 diabetes, obesity, hypertension, and all-cause mortality. To decrease the risk, many physical activity promotion interventions have been developed, but they have rarely succeeded in achieving their goals. One reason may be that these interventions rarely incorporate ethnic-specific attitudes toward physical activity of ethnic minority midlife women in its design. Based on our preliminary studies, we have developed a theory-driven and culturally tailored Web-based physical activity promotion program for Korean American midlife women that incorporates the women’s ethnic-specific attitudes toward physical activity.

The purpose of this pilot study is to determine the effectiveness of the Web-based physical activity promotion program in improving physical activity experience of Korean American midlife women.
Study Design

- Phase 1
  - Usability test
  - Expert review

- Phase 2
  - Randomized repeated pretest/posttest (pre-test, post 1m, & post 3m) control group design
Usability Test
Samples and Settings

- 5 Korean American midlife women
  - At high risk for chronic diseases
  - One of the ethnic minority groups using the Internet more than any others
  - The most rapidly growing group in the U.S.
  - The group that the research team has closely worked with in previous studies

- Settings
  - Internet communities/groups for Koreans in the U.S.
  - Internet portal sites for Koreans
Data Collection

Sign in the study website using their own ID and passwords

Use WPAPP

Participate in a 1-month-online forum (1-2 topics/week)

- The overall structure of the program
- Preferences for color, design, and menu
- Preferences for contents
- Technical support and difficulties
- Areas for additional content
- Preferences for links to Internet resources
- Other issues that should be considered
Data Analysis

- Content analysis by Weber to identify themes in each topic
Findings

● In general, positive evaluation of the program

● “Easy to use,” “simple,” “good,” and “no issues”
  ● “Colors are easy on my eyes and menus are easy to use.”
  ● “I didn’t know well how to use a computer, but it was not that difficult as I continued to use the program.”
Expert Review
Samples and Settings

- 5 experts in women’s health and/or physical activity
  - Some of them can read and speak English and Korean.

Settings
- The Center for Global Women’s Health at the Univ. of Pennsylvania
- Other nursing schools in the U.S.
Data Collection

- **Cognitive Walkthrough method**
  - What are difficulties users may experience in learning to operate the program?

- **Steps**
  - Visit the study website and explore WPAPP.
  - Provide a written evaluation on the program within 2 weeks via email.
    1. Components
    2. Presentation style
    3. Contents
    4. Any other concerns/issues
Data Analysis

- Content analysis by Weber to identify themes in each topic
Findings

Suggestions to improve the program:

1) Educational modules
   - Some contents not tailored to Asian American midlife women
   - Too many letters + small fonts
   - Need of more visuals
   - Need of highlighting take-home messages
2) Online resources
   • Too much information
   • Need of organization (prioritization) of the resources

3) Technical issues
   • Unstable access to the study website
Cont’d

4) Others

- Unnatural translation into Korean
- Insufficient explanation about benefits of the study
- Need of instructions after registration for the study website
Discussions

• Refinement of the program was conducted through discussions based on the study results.

• Educational modules
  • Take some contents out less relevant to (Asian American) midlife women (e.g., benefits of PA across the life span)
  • Include take-home messages

• Online resources
  • Keep videos/links that seem most useful for Korean American midlife women
  • Organize them according to a source of the materials (e.g., scientific authorities, lay resources, and culture-specific)
Cont’d

- Technical issues
  - Provide an alternate website link when the original one does not work

- Others
  - Review and smoothen Korean translations
  - Benefits of the study – well presented on the website and informed consent
  - Post an instruction on how to join the online forum on the online message board + send weekly reminders
Conclusions

- Feasibility of developing a culturally tailored Web-based program
- Extension of the WPAPP to other populations with modifications
- Call for international collaborative research to develop and test culturally tailored WPAPPs
Thank you!

Any questions?