

What is the Best Strategy in a Web-based Physical Activity Promotion Program for Asian Americans?

Presenter: Wonshik Chee, PhD, Associate Professor, Duke University

* Co-authors: Xiaopeng Ji, PhD; Sangmi Kim, PhD; Soo Young Park, MSN; Jingwen Zhang, PhD; Eunice Chee, BSE; Hsiu-Min Tsai, PhD, FAAN; and Eun-Ok Im, PhD, CNS, MPH, RN, FAAN

Presenter Disclosures

Wonshik Chee

No relationships to disclose

Funding Acknowledgement

- The study was funded by the University Research Foundation Grant and the Dr. Dorothy Mereness Endowed Research Fund at the University of Pennsylvania, and the Chang Gung Medical Research Foundation (ZZRPF3C0011). We greatly appreciate the efforts made by Ms. Se Hee Min and Ms. Jia Xue for participant recruitment and data collection.

Background

- With easy access to Web-based programs without physical attendance, Web-based programs have been reported to be effective in **changing health behaviors including physical activity.**
- Web-based programs have been reported to be **effective even among isolated/marginalized people** due to their race/ethnicity, geographical areas, and/or with stigmatized conditions.
 - ✓ Subsequently, an increasing number of Web-based interventions for physical activity promotion have been widely used in diverse populations including racial/ethnic minorities.

Background

The gap in the literature:

Little is still known about the best strategies for physical activity promotion in racial/ethnic minorities through Web-based interventions.

Objectives

- ✓ To explore challenges in using three different strategies in a Web-based intervention for physical activity promotion among Asian Americans; and
- ✓ To propose suggestions for future Web-based physical activity promotion programs for racial/ethnic minorities.

The Study:

A Web-based Physical Activity Promotion Program for Asian American Midlife Women (WPAPP)



- **Purpose of the Study**

- To promote physical activity among Asian Americans using a Web-based physical activity promotion program with three different strategies.

Study Design

- A repeated measures pretest/posttest (pre-test, post 1 month, & post 3 months) randomized control group study
 - ✓ **Group 1**: 94 Asian Americans using the Web-based intervention only.
 - ✓ **Group 2**: 46 Asian Americans using the Web-based intervention with the use of Fitbits Charge HR.
 - ✓ **Group 3**: 25 Asian Americans using a Web-based intervention with office visits (urine collection and blood pressure and heart rate measures) and the use of Fitbits Charge HR

Samples and Settings

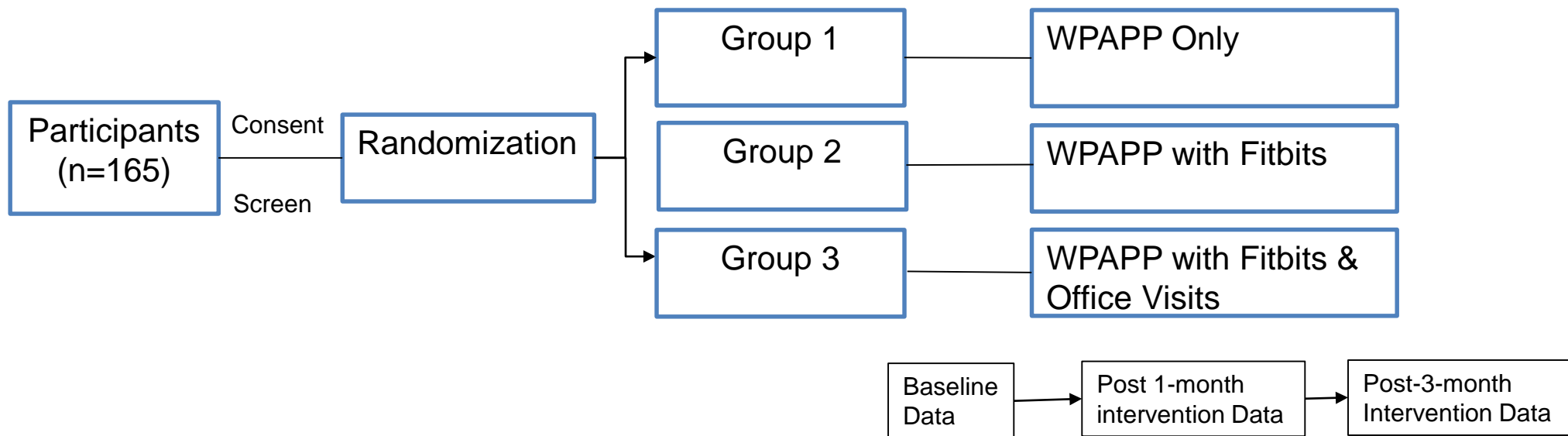
- **Samples**: 165 Asian American midlife women who:
 - Are aged 40 to 60 years old;
 - Are self-identified Chinese or Korean;
 - Can read English, Mandarin Chinese, or Korean; and
 - Have access to computers or mobile phones.
- **Settings**: Internet communities/groups and local communities/groups for Asian Americans

Instruments

- The questions on background characteristics and health/disease status;
 - The Questions on Attitudes toward Physical Activity, Subjective Norm, Perceived Behavioral Control, and Behavioral Intention;
 - The Perceived Isolation Scale;
 - The Physical Activity Assessment Inventory;
 - The Modified Barriers to Health Activities Scale; and
 - The Kaiser Physical Activity Survey
- ✓ The reliability and validity of all these instruments have been established in Asian populations, and Cronbach's alphas of these instruments range from .62 to .97

Data Collection Procedures

- Procedure flow chart



Methods

1

- Recruitment and retention rates in the three different strategies were calculated using the numbers of participants who participated in the study at pre-test, post 1-month test, and post 3-month test that were recorded in the database of the Web-based program. The recruitment and retention rates were calculated using descriptive statistics. .

2

- Research team members wrote individual research diaries. The research team held weekly group meetings to discuss and recorded emerging issues in the study.

3

- The memos and written records were reviewed and analyzed using the content analysis technique suggested by Weber
- Coding → categorization → extract themes

Findings: Retention Rates

- The retention rates at the post 1-month;
 - ✓ 12% in Group 3 to 36.9% in Group 2.
- The retention rates at the post 3-month
 - ✓ 0% in Group 3 to 36.9% in Group 2.

Findings: Recruitment & Retention Rates

Table 1. The recruitment and retention rates in the intervention groups using three different strategies.

	Group 1	Group 2	Group 3	Total
# of those screened	112	70	35	217
# of those recruited	94	46	25	165
# of those retained by the post 1-month	21	17	3	41
Retention rates by the post 1-month (%)	22.3	36.9	12.0	24.8

Findings: Issue 1

- **Recruitment difficulties**

- ✓ A total of 935 communities/groups for Asian Americans were contacted for study announcements, and only 310 of them agreed to post and subsequently posted the study announcements through their websites and email lists.
- ✓ All of the participants in Group 3 did not like multiple office visits because of time commitment that they needed to make for the study.
- ✓ Group 3 thought that the amount of participation reimbursement (\$50) was very low considering their efforts made for the study participation.

Discussion Points

- ✓ The Literature is clear about low response and high dropout rates in Web-based research in general.

Findings: Issue 2

- **The essential use of community consultants/gatekeepers**
 - ✓ Difficulty to involve community consultants/leaders in recruitment and retention of the participants without former relations.
 - ✓ The use of original language (e.g., Mandarin Chinese or Korean) was essential in the contacts.
 - ✓ Actual visits at the community sites were necessary to have relationships with the communities/groups.
 - ✓ Having an insider in the research team worked very well.

Discussion Points

- ✓ The recruitment and retention of Asian Americans through non-face-to-face interactions are reportedly difficult.

Findings: Issue 3

- **Cultural differences in recruitment and retention**
 - The recruitment of Chinese was much easier than the recruitment of Koreans across the strategies.
 - ✓ To recruit 33 Chinese participants, 72 communities/groups were contacted and 52 of them announced the study. However, to recruit 13 Korean participants, 422 communities/groups were contacted, and 72 of them announced the study.
 - ✓ The actual population size (Chinese=3.79 million Vs Korean=1.7 million).
 - ✓ Possible cultural differences in attitudes toward research participation.

Discussion Points

- Asian Americans' own perception of their high level of physical activity (even breathing is physical activity).
 - ✓ Im and Choe reported that Korean American midlife women broadly defined physical activity, and the women thought only death was physical inactivity.

Findings: Issue 4

- **The importance of timing**

- Because of Thanksgiving and Christmas holidays, it was difficult to recruit and retain the participants across the strategies.
 - ✓ In early December, 33 participants in Group 2 completed the pre-test, but we retained only 3 of them at the post 1-month survey despite multiple emails of reminders.
 - ✓ In mid-January, we re-contacted the participants and successfully retained 6 more participants within a week from the reminder.

Discussion Points

- Timing issues in Web-based interventions have been frequently reported in the literature.

Findings: Issue 5

- **Fitbits as a facilitator**

- The use of Fitbits attracted more participants.
 - ✓ Compared with Group 1 who were not provided with Fitbits, the retention of Group 2 was easier.
 - ❖ The retention rate of Group 2 was 37% while that of Group 1 was 22%.
 - ✓ Group 2 explicitly indicated that they would want to keep Fitbits after completing their participation.
 - ❖ The necessity of user guidelines/ possible losses of Fitbits/ synchronizing process/ frequent charges of Fitbits.

Discussion Points

- Fitbits have been reported to be a good motivator/facilitator for physical activity promotion.

Findings: Issue 6

- **Not-preferring office visits**
 - ✓ The participants reported difficulties in making multiple office visits because of difficulties in transportation and parking.
 - ✓ The participants reported difficulties in finding time to make multiple visits due to their busy daily schedules.
 - ✓ Office visits made the participants avoid the email reminders by the research team and drop out of the study.

Discussion Points

- Combining a Web-based intervention with actual face-to-face interactions has been reported to be effective in other racial/ethnic groups, but it didn't work among Asian American midlife women.

Conclusions

- ✓ The use of Fibits with development of user guidelines and the involvement of community consultants/leaders are proposed for future Web-based interventions.
- ✓ More studies on cultural attitudes toward physical activity, research participation, and Web-based interventions are needed.
- ✓ We suggest the use of community consultants/leaders in the recruitment of ethnic minorities regardless of the strategies adopted in a Web-based intervention.

