Faith in Action/Fe en Accion: Findings from a randomized controlled trial promoting physical activity among church going Latinas

ELVA M. ARREDONDO, PHD
ASSOCIATE PROFESSOR, SAN DIEGO STATE UNIVERSITY, GRADUATE SCHOOL OF PUBLIC HEALTH
SENIOR CORE INVESTIGATOR, INSTITUTE FOR BEHAVIORAL AND COMMUNITY HEALTH
CO-DIRECTOR OF THE SDSU-UCSD JOINT DOCTORAL PROGRAM IN HEALTH BEHAVIOR
Overview

- Disparities in leisure time physical activity
- Ecological models and physical activity
- Faith in Action/Fe en Accion
  - Rationale/background
  - Study design
  - Method
  - Intervention
  - Results
  - Conclusions
  - Future directions
Leisure time physical activity

Percent of adults who meet leisure time physical activity guidelines

- Non Hispanic white Men: 41.7%
- Non Hispanic white Women: 34.9%
- Mexican American Men: 35.2%
- Mexican American Women: 28.9%

Physical activity guidelines = 150 minutes of moderate to vigorous activity/wk

Source: Neighbors, Marquez, & Marcus, 2008
Addressing Low Physical Activity Rates: An Ecological Framework of Health Behavior

- **Intrapersonal**
  - Biological
  - Psychological
  - Behavioral Skills

- **Interpersonal**

- **Environmental** (Physical and Social)

- **Policy**
Background

• Review of PA interventions in Latinos/Hispanics\(^a\)
  - Social support is associated with PA
  - Including staff from the same ethnic group (i.e., lay health advisors)
• Faith-based PA programs\(^b\)
• Latinos and church attendance\(^c\)

\(^a\) Ickes & Sharma, 2012; \(^b\) Bopp, Peterson, & Webb, 2012; \(^c\) PEW
Faith in Action (Fe en Acción) is a randomized controlled community trial that intervenes at multiple levels to increase physical activity and cancer screening among churchgoing Latinas.

Church members (promotoras) are hired and trained to provide education and support to fellow parishioners to improve the health of their community.

Present primary (PA and anthropometric) and secondary findings (individual and interpersonal level) at 12 months.
Design of intervention trial

Recruitment of churches (N=16), participants (N=444), and promotoras

R (N=16 churches)

Baseline Assessment (M1)

Physical Activity Intervention

Attention control Cancer prevention

Follow up Assessment (1 year)

Physical Activity Intervention

Attention control Cancer prevention

Follow up Assessment (2 years)
Map of intervention region (N=16 churches)
Inclusion criteria

- **Women** between 18-65 years
- Self-report Latina/Hispanic
- Inactive (living fairly sedentary styles)
- Commit to live in the region for 2 years
- Attending the church at least 4x a month for any reason
- Live within 15 minutes of the church
- Not attend any other churches in the study
- Passing the Physical Activity Readiness Questionnaire (PAR-Q)
### Consort Table

<table>
<thead>
<tr>
<th>Subjects Recruited</th>
<th>n=3592</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed for Eligibility</td>
<td>n=2718</td>
</tr>
<tr>
<td>Eligible</td>
<td>n=848</td>
</tr>
<tr>
<td>Consented</td>
<td>n=600</td>
</tr>
<tr>
<td>Enrolled</td>
<td>n=436</td>
</tr>
</tbody>
</table>

#### Assessed for Eligibility
- Not assessed for eligibility n=874
  - Wrong number; unreachable
- Excluded n=1870
  - Not meeting inclusion criteria (n=1375)
  - Declined to participate (n=289)
  - PARmedX not returned (n=206)

#### Eligible
- Not consented or measured at baseline n=248
  - Refused to participate; unreachable; no show to appt.

#### Consented
- Dropped n=164
  - ≥ 250 min. MVPA (n=113)
  - Incomplete Data (n=39)
  - Malfunctioning accelerometers (n=9)
  - Accelerometer not initialized correctly (n=1)
  - Dropped due to uncontrolled blood pressure (n=1)
  - Deceased between baseline and 12-month FU (n=1)
Evaluation

- Physical measures
  - MVPA: Accelerometer – objective (minimum of 4 day valid wear including a weekend day)
  - Anthropometric: height, weight, waist circumference

- Survey
  - Global Physical Activity Questionnaire – self-reported leisure time MVPA
  - Behavioral strategies for PA
  - Diet
  - Number of hours of sleep/night
  - Social support for PA (# of people who support PA)
  - Religiosity

---

\(^a\) World Health Organization \(^b\) Thompson et al., 2007 \(^c\) Marquez et al., 2014 \(^d\) Holt et al., 2009
Promotoras (community health workers)

- Promotoras recruited from participating churches
- Recruitment process
- Selection
- Training
Physical activity intervention

- *Promotoras* at each church lead six (60 min) classes a week
  - 2 walking groups
  - 2 cardio dance classes
  - 2 strength training classes

- Health education handouts are provided covering various topics (e.g., nutrition, injury prevention, goal setting, time management)

- Motivational Interviewing\(^a\)

\(^a\) Resnicow, et al., 2001
### Results: Sociodemographic and anthropometric characteristics

<table>
<thead>
<tr>
<th>Characteristics (n=436)</th>
<th>M (SD) / %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (SD)</td>
<td>44.4 (9.6)</td>
</tr>
<tr>
<td>Married or coupled (%)</td>
<td>77.4 %</td>
</tr>
<tr>
<td>Employed (%)</td>
<td>65.7 %</td>
</tr>
<tr>
<td>Household income (&lt; 2,000) (%)</td>
<td>63.3%</td>
</tr>
<tr>
<td>Education (&lt; HS) (%)</td>
<td>54.9 %</td>
</tr>
<tr>
<td>Country of Birth (Mexico) (%)</td>
<td>90.8 %</td>
</tr>
<tr>
<td>Mean years in the US (SD)</td>
<td>21.0 (10.3)</td>
</tr>
<tr>
<td>Mean BMI (SD)</td>
<td>30.3 (6.22)</td>
</tr>
<tr>
<td>Mean waist circumference (SD)</td>
<td>94.9 (14.7)</td>
</tr>
</tbody>
</table>
Results: Primary and secondary outcomes

Table 1: Mixed effects models evaluating intervention for primary and secondary outcomes

<table>
<thead>
<tr>
<th>Condition</th>
<th>Intervention</th>
<th>Control</th>
<th>Diff in adj</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adj Mean</td>
<td>SE</td>
<td>Adj Mean</td>
<td>SE</td>
<td></td>
</tr>
<tr>
<td>MVPA (accelerometer)</td>
<td>4.93</td>
<td>0.05</td>
<td>4.78</td>
<td>0.03</td>
</tr>
<tr>
<td>Light activity (accelerometer)</td>
<td>2357.2</td>
<td>45.2</td>
<td>2362.2</td>
<td>40.9</td>
</tr>
<tr>
<td>Leisure time MVPA self report</td>
<td>4.86</td>
<td>0.05</td>
<td>4.47</td>
<td>0.09</td>
</tr>
<tr>
<td>BMI</td>
<td>30.2</td>
<td>0.14</td>
<td>30.6</td>
<td>0.14</td>
</tr>
<tr>
<td>Waist circumference</td>
<td>95.2</td>
<td>0.5</td>
<td>96.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Behavioral strategies for PA</td>
<td>4.84</td>
<td>0.21</td>
<td>3.77</td>
<td>0.16</td>
</tr>
<tr>
<td>Calories from fat</td>
<td>29.5</td>
<td>0.2</td>
<td>29.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Hours of sleep</td>
<td>6.85</td>
<td>0.06</td>
<td>7.02</td>
<td>0.04</td>
</tr>
<tr>
<td># of people providing support</td>
<td>0.12</td>
<td>0.08</td>
<td>0.08</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Mixed effects of generalized linear mixed models adjusting for clustering effects of churches. ANCOVA adjusting for baseline measures of outcome, age, marital status, and education.
Faith-based intervention programs are an effective way to promote physical activity among Latinas

- Increased physical activity (objective/self report leisure time)
- and, reduction in BMI
  - Marginally significant changes in waist circumference
- Changes in secondary outcomes
  - Increased sleep, but not social support or diet
Next steps

- Examine long term (24 month outcomes)
  - Expand and adapt the program to other regions and denominations
- Examine mechanisms of change
  - Self monitoring? *Promotora* support?
- Adapt the program to include family members
Research team

**Investigative team**  
Elva M. Arredondo (PI), Ph.D.  
John P. Elder, Ph.D., MPH  
Guadalupe X. Ayala, Ph.D., MPH  
Don Slymen, Ph.D.  
Jim Sallis, Ph.D.  
Sherry Ryan, Ph.D.

**Project Manager:**  
Jessica Haughton, MPH, MA

**Evaluation Coordinator:**  
Martha Solórzano, MPH

**Doctoral Student/Data Manager:**  
Lilian Perez, MPH

**Physical Activity Specialist:**  
Jacqueline Montañez

**Cancer Prevention RA:**  
Carolina Lopez

**Evaluation Research Assistants:**  
Regina Flores, Stephanie Ruiz, Karina Parra, Farah Palomas, Melissa Estrada-Maravilla

**Physical Activity Promotoras**  
**Cancer Prevention Promotoras**  
**Student interns**  
**Participants**

**Diocese of San Diego**

**Funding agency:** NCI R01CA138894-01
Thank you! ¡Gracias!