Older Adults Recall Key Fall Prevention Messages after Social Marketing to Promote Balance Classes through Churches

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Collaborators

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- Colorado School of Public Health, University of Colorado Denver & Colorado Injury Control Research Center
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  - Dennis Lezotte, PhD
Few older adults take balance exercise classes

- Belief that falls in old age are inevitable
- Fear of falling
- Discomfort with group exercise classes
- Lack of available and accessible classes
Social Marketing

- Uses *persuasion* to motivate the voluntary behavior of target audiences
- Offers products that target market members perceive to be *in their own best interest*
- Shown to increase preventive health behaviors in older adults
- Could be effective for persuading older adults to take balance classes
Study Objectives

- Examine awareness and recall of social marketing messages about balance classes among older adults exposed through their churches
Two western Colorado counties (pop. 177,415)
One city, few small towns, otherwise rural
Study Design: Cluster Randomized Controlled Trial

- Enrolled Churches
  - Intervention (Social Marketing) Churches
    - Older Adult Members
  - Control Churches
    - Older Adult Members

Rand.
Social Marketing Program

“Prevent future falls by attending the N’Balance class”

“Keep your independence with a better sense of BALANCE”
- Authoritative endorsement
- Pulpit announcements
- Church bulletins
- Peer marketing
- Trained ‘Church Messengers’
- Newsletter articles
- Marketing messages
- Schedules, locations
Social Marketing Program Implementation

- Implemented by health department staff
- Each church received on average four month-long marketing ‘waves’
  - Brochures, posters, pulpit announcements and informal conversations >90% of churches
  - Bulletins, newsletters >75% of churches
Outcomes

- **Awareness** of messages
  - “Have you heard or seen any information about balance classes, falls or exercise to prevent falls at your church or from its members?”

- **Recall** of specific messages and communication channels
  - “What information about …. have you heard or seen …?”
  - “How did you hear or see information about …?”
Data Collection

- In each church, mail survey of ~6% random sample of older adult church members ~one year after enrollment
  - Multiple mailings, $2 incentive
- Mail survey included:
  - Awareness and recall of information
  - Frequency of attendance at church
  - Fall history, fear of falling
  - Health status, demographics
Data analysis

- Compared message awareness and recall between study groups using logistic regression models.
- All models included random effect for church to account for intra-cluster correlation.
- Multivariate models used to adjust for confounding.
Results: Recruitment

51 Enrolled Churches

26 Social Marketing Program Churches

3521 Older Adult Members

25 Control Churches

3580 Older Adult Members
## Churches: Baseline Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Social Marketing</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean total membership</td>
<td>484</td>
<td>620</td>
</tr>
<tr>
<td>Mean % of congregation aged 60+</td>
<td>45%</td>
<td>48%</td>
</tr>
<tr>
<td>(range 5% - 90%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean number of services per week</td>
<td>3.0</td>
<td>2.7</td>
</tr>
<tr>
<td>% Protestant</td>
<td>77%</td>
<td>88%</td>
</tr>
<tr>
<td>% Rural Location</td>
<td>39%</td>
<td>40%</td>
</tr>
<tr>
<td>Church leader’s willingness to market*</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Church leader’s perceived effectiveness of balance classes for fall prevention*</td>
<td>3.2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*(1=not at all, 5 = extremely)*
Mail Survey

- 281 Congregants aged 60 and older
  - Estimated response rate = 62%
- 64% Female, 96% White
- Age: mean 72.5 years
- Education: mean 14.8 years
- No sociodemographic differences between study groups
<table>
<thead>
<tr>
<th>Respondent Characteristics</th>
<th>Social Marketing Church Members (n=149)</th>
<th>Control Church Members (n=131)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attends church at least weekly</td>
<td>70%</td>
<td>82%</td>
</tr>
<tr>
<td>Fell at least once in past year</td>
<td>46%</td>
<td>38%</td>
</tr>
<tr>
<td>High concern about falling</td>
<td>35%</td>
<td>38%</td>
</tr>
<tr>
<td>Very good or excellent health</td>
<td>56%</td>
<td>53%</td>
</tr>
<tr>
<td>Satisfied or very satisfied with life</td>
<td>94%</td>
<td>92%</td>
</tr>
</tbody>
</table>
Awareness of Messages

Have you heard or seen any information about balance classes, falls or exercise to prevent falls...?

Social Marketing  Control

At church / from members
Awareness of Messages

Have you heard or seen any information about balance classes, falls or exercise to prevent falls...?

- **Social Marketing**: At church / from members: 60%  
  From other sources: 50%

- **Control**: At church / from members: 40%  
  From other sources: 30%
Awareness of Messages

Heard or seen any information about balance classes, falls or exercise to prevent falls?

<table>
<thead>
<tr>
<th></th>
<th>Adjusted Odds Ratio* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At church or from church members</td>
<td>7.7 (3.1, 18.7)</td>
</tr>
<tr>
<td>From any other sources (e.g., TV, MD)</td>
<td>0.8 (0.5, 1.4)</td>
</tr>
</tbody>
</table>

*Adjusted for clustering by church, frequency of church attendance
What information ... heard or seen about balance classes, falls or exercise to prevent falls at church or from church members?

- Prevent falls with balance class: Social Marketing 35%, Control 10%
- Balance classes available: Social Marketing 30%, Control 5%
- Falls/ fall injuries serious: Social Marketing 25%, Control 15%
### Recall of Messages

What information have you heard or seen about balance classes, falls or exercise to prevent falls at church or from church members?

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<tr>
<th></th>
<th>Adjusted Odds Ratio* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing falls by taking a balance class</td>
<td>6.2 (2.6, 14.8)</td>
</tr>
<tr>
<td>Availability of balance classes in the community</td>
<td>7.7 (2.6, 22.9)</td>
</tr>
<tr>
<td>Seriousness of falls or fall injuries in older adults</td>
<td>1.2 (0.4, 3.3)</td>
</tr>
</tbody>
</table>

*Adjusted for clustering by church, frequency of church attendance
Recall of Communication Channels:
“How did you hear or see information about ...?”
(Intervention Church Members)

- Church bulletin or newsletter
- Pulpit announcement
- Conversation w/ church members
- Poster
- Brochure
- Presentation during services
Limitations & Strengths

- Survey response rate 62%
- Generalizability of results to minorities, other faith-based congregations, highly urbanized areas
- Randomized controlled design
- Characteristics of respondents similar between groups
Conclusions & Implications

- Church-based social marketing programs can effectively reach older adults with messages about preventing falls through balance classes.
- Such programs should take advantage of trusted communication channels such as church newsletters, bulletins, pulpit announcements.
  - Messages via other modalities (e.g., posters, brochures supplied by program) appear less effective.
- Further research should examine whether findings can be generalized to other populations and settings.
Acknowledgments

- The churches, their leaders and congregants who participated in this study
- Research assistants: Sarah Morehouse, Vedavani Tiruveedhula
- This project was supported by Colorado Injury Control Research Center Grant Number R49/CCR811509 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent official views of the CDC.
Questions?
Awareness and Recall

- 93% of balance class participants from intervention churches reported that they heard about the class through their church.
What kind of information did you hear or see at church?

- Availability of balance classes
- Balance classes prevent falls
- Falls and fall injuries are serious
- Other ways to prevent falls
- Other message
How did you receive this information at your church?

- Church bulletin / newsletter
- Pulpit announcement
- Conversation with church member
- Brochure
- Poster
- Presentations at services or events
- Letter or email
- Other ways
Previous findings from this study

- Demonstrated that a social marketing program, implemented in churches, increased participation in balance classes by older adult church members.
Number of Older Adults Enrolled in N’Balance Classes (total n=269)
Mean Proportion of Older Adult Congregants Who Enrolled in Balance Class

Z = -4.47, p < .001
Product: N’Balance

- Individualized balance, strength, sensory, gait training
- 10 students/class
- Meets biweekly for 8 weeks (16 class sessions)
Results: Recruitment

158 Churches Assessed for Eligibility

71% Eligible

29% Not Eligible (size, location)

51 Enrolled (46%)

61 Refused / Did Not Respond (54%)

25 Control Churches (49%)
3580 OA Members

26 Social Marketing Churches (51%)
3521 OA Members