Community Partnerships on Obesity & Diabetes

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Claire Townsend, DrPH, Department of Native Hawaiian Health
He Huliau September 12, 2015
Community-Based Participatory Research

“Collaborative approach to research that involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community with the aim of combining knowledge and action for social change to improve community health and eliminate health disparities.”

W.K. Kellogg Community Scholar’s Program (2001)
Community Engagement

10 Native Hawaiian and Pacific People Serving Organizations

- Community Advisory Board
- Partnership for Improving Lifestyle Interventions ‘Ohana Project
PILI ‘Ohana Project

Determinants of Weight Loss

Figure 1. PILI ‘Ohana ecological model for intervention development

DPP – Lifestyle Intervention

- 16-session core-curriculum on behavioral self-management strategies for weight loss and physical activity
- Lifestyle coaches
- Frequent contact with participants
- Supervised physical activity sessions
- Maintenance strategies
- Individualized adherence strategies
- Network of training, feedback, and clinical support

### PILI Lifestyle Program

<table>
<thead>
<tr>
<th>Section</th>
<th>Topics</th>
</tr>
</thead>
</table>
| 1: Introduction to PILI Lifestyle | 1A: Welcome to the Lifestyle Balance Program  
12: The Slippery Slope of Lifestyle Change  
16: Ways to Stay Motivated |
| 2: Getting Started | 1B: Getting Started Being Active  
3: Being Active: A Way of Life  
5: Three Ways to Eat Less Fat |
| 3: Get Moving | 1B: Get Started Being Active & Losing Weight  
4: Be A Fat Detective  
2: Move Those Muscles |
| 4: Make it Fun | 6: Healthy Eating  
10: Four Keys To Healthy Eating Out  
13: Jump Start Your Activity Plan |
| 5: Keep it Going | 8: Tip the Calorie Balance  
**Economics of Healthy Eating (Meal Planning)** |
| 6: Taking Charge | 7: Take Charge of What’s Around You  
14: Make Social Cues Work for You. |
| 7: Talking it Out | 9: Problem Solving  
**Talking with your Doctor** |
| 8: Wrapping it Up | 11: Talk Back To Negative Thoughts  
15: You Can Manage Stress |
Assessments

- **Baseline and 3-months**
  - Height (cm)
  - Weight (kg)
  - Systolic/diastolic blood pressure
  - Fat intake - Eating Habits Questionnaire
  - Physical Activity Frequency – Brief Physical Activity Questionnaire
  - Physical Functioning – 6-minute Walk Test

Participants

• Self-reported Native Hawaiian, Filipino, or other Pacific Islander
• Age 18 years or older
• BMI $>25 \text{ kg/m}^2$ or $>23 \text{ kg/m}^2$ (Filipino ethnic background)
• Willing and able to follow a weight loss intervention
• Able to identify at least one family, friend or co-worker who would be willing to support the participant
## Intervention Study Results

Change in Clinical and Behavioral Measures Post-PILI 3-Month Weight Loss Program (N= 242)

<table>
<thead>
<tr>
<th>Measures</th>
<th>Change</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>-1.7 ± 3.5</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>-0.6 ± 1.3</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Systolic Blood Pressure (mmHg)</td>
<td>-2.8 ± 12.5</td>
<td>0.001</td>
</tr>
<tr>
<td>Diastolic Blood Pressure (mmHg)</td>
<td>-2.0 ± 8.1</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>6 minute Walk Test (feet)</td>
<td>74.7 ± 154.7</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Dietary Fat Intake Score b</td>
<td>-0.2 ± 0.3</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Physical Activity Level c</td>
<td>-0.6 ± 1.1</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

a = all measures reported as mean ± SD;  
b = dietary fat score ≥ 2.5 indicates greater than 30% of calories from fat.  
c = frequency of moderate-vigorous physical activity, range: 1= ≥4 times/wk (more active) to 5=rarely or never (less active).
Change in Clinical and Behavioral Measures Post-PILI 3-Month Weight Loss Program (N=217)

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<tr>
<th>Measures</th>
<th>Change</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>−1.2 ± 2.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>−0.5 ± 1.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Systolic Blood Pressure (mmHg)</td>
<td>−2.4 ± 11.2</td>
<td>&lt;0.15</td>
</tr>
<tr>
<td>Diastolic Blood Pressure (mmHg)</td>
<td>−2.5 ± 7.2</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>6 minute Walk Test (feet)</td>
<td>113.0 ± 121.1</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Dietary Fat Intake Score</td>
<td>−0.2 ± 0.3</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Physical Activity Level</td>
<td>−0.5 ± 1.0</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

a = all measures reported as mean ± SD;
b = dietary fat score ≥ 2.5 indicates greater than 30% of calories from fat.
c = frequency of moderate-vigorous physical activity, range: 1= ≥4 times/wk (more active) to 5=rarely or never (less active).
Partners in Care (PIC)

• 12 weekly, group-based lessons
• Diabetes self-care program
• Based on ADA guidelines
• Basic information about diabetes care
• Emphasizes goals for blood sugar levels, blood pressure, and lipids.

## PIC Results

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pilot (n=34)</th>
<th>RMATRIX (n=65)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HbA1c</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>9.7 (2.1)</td>
<td>9.7 (2.1)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>3 months</td>
<td>8.2 (1.1)</td>
<td>9.0 (2.1)</td>
<td></td>
</tr>
<tr>
<td><strong>Problem Areas in Diabetes Score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>31 (31)</td>
<td>35.2 (24.7)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>3 months</td>
<td>20 (22)</td>
<td>27.1 (22.9)</td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes Care Profile</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>31 (10)</td>
<td>30 (9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>3 months</td>
<td>50 (9)</td>
<td>36 (8)</td>
<td></td>
</tr>
<tr>
<td><strong>Summary of Diabetes Self-Care Attitudes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>19 (4)</td>
<td>17.5 (4.9)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>3 months</td>
<td>26 (3)</td>
<td>18.4 (4.4)</td>
<td></td>
</tr>
</tbody>
</table>

Lessons Learned

• Facilitators matter
  • Commitment but **not** education level
  • Active involvement
• One size does not fit all
  • Differences in acculturation-related factors, motivation, and community resources
• Participant engagement
  • Increased through group interaction, games, activities, immediate positive reinforcements
  • May contribute to enhanced weight loss
Mentoring Model

Wider Environment

Shared Context

Mentors
Training Guidance Support

PLP/PIC (Innovation) Adaptations

Mentees
Adoption Adaptation Implementation Sustainability

Academic Partners
Technical Assistance Capacity Building

PILI ‘Ohana Community Partners

New community-based organizations

CBPR

Delafield, R. et. al. (in review) A CBPR guided model for dissemination of evidenced-based interventions
Acknowledgements

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