Abstract

Objectives: Outcome assessments of the two-year iCook-4-H intervention for youth/adult dyads and program dissemination across 5 states. Description: iCook-4-H was a control/treatment intervention study with 4 assessment periods. The family-centered intervention for obesity prevention in youth was a 6-session, biweekly, out-of-school program with continued newsletters and booster sessions to encourage at-home cooking, eating and playing together. To test the feasibility of dissemination, a control/treatment design was used. Primarily Cooperative Extension staff (n=13; 34 sites) led iCook-4-H for 57 dyads, with minimal researcher assistance. Evaluation: In year 4, physical assessments, surveys, and program evaluation were conducted on 130 intervention dyads, 57% of baseline sample (youth=11.3±6.7 years). In dissemination, only program evaluation was used which included fidelity of implementation, conducted on 27% of total sessions. Conclusions: Over the 2-year intervention, adjusting for baseline, BMI z-score was greater for treatment youth (0.68, ±0.90) compared to control (0.38, ±0.40) (p=0.01). Fruit/vegetable intake over time was 2.30 vs 1.67 cups/day for treatment youth vs control, respectively (p=0.052). For adults, mean daily dairy intake 0.56 cups equivalent > control (0.38, ±0.40) (p<0.001). Program dissemination was successful based on fidelity testing; 91% of session objectives were met, 97% of leaders were rated effective in program delivery, and dyads were engaged (91% of time for adults and 88% for youth). Results varied for the iCook-4-H intervention, and dissemination of program in multiple settings was successful.

Background

- Childhood obesity could be solved within a generation through nutrition education and increased physical activity in families. [http://www.itronix.org/white-house-task-force-childhood-obesity-report accessed 5/26/16].
- iCook-4-H is a USDA-NIFA funded 5-year multi-state intervention study using a youth/adult dyad model to promote families cooking, eating and playing together.

Methods

Intervention Study implemented August 2013-August 2015
- Control/treatment, 220 dyads at baseline, 130 at 24 months (59% retention)
- Researcher driven intervention
- Assessments: physical measures and surveys at 0, 4, 12, 24 months
- Intervention 6 bi-weekly sessions followed by boosters/newsletters

Dissemination Study implemented from September-December 2015
- Control/treatment, 64 dyads
- Assessments: program and fidelity measure -youth, 33-item survey includes 8-item cooking skills, 2-item goal setting -adult, 21-item survey includes 14-item cooking, eating and playing together -9-item fidelity instrument specific to session, 27% assessed -measured leader effectiveness, program monitoring and participant engagement, actual vs. intended curriculum implementation -trained independent evaluators
- Intervention: 8 bi-weekly sessions
- two sessions added after Intervention Study

Evidence of Fidelity

- iCook-4-H study was successful with minimal researcher support in program implementation.
- Program was disseminated to 5 states by state-wide staff, 91% session implementation fidelity.
- iCook-4-H study was successful with minimal researcher support in program implementation.

Results: Intervention Study

Youth BMI z-scores over 24-months

<table>
<thead>
<tr>
<th>Year</th>
<th>Control</th>
<th>Treatment</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.11 ± 0.04</td>
<td>2.3 ± 0.04</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>3</td>
<td>2.12 ± 0.04</td>
<td>2.13 ± 0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>4</td>
<td>2.15 ± 0.06</td>
<td>2.16 ± 0.06</td>
<td>0.94</td>
</tr>
</tbody>
</table>

Youth Dietary Changes over 24-months

- When the linear mixed model was used to analyze BMI z-scores, the treatment youth BMI was stable, while the control youth BMI increased.
- Treatment youth had intakes of dairy, fruits and vegetables ~ ½ cup per day more than the control youth at 24 months.
- Dissemination of the iCook-4-H study was successful with minimal researcher support in program implementation.
- iCook-4-H is an evidence-based program, tested in multiple settings, for the prevention of childhood obesity.

Summary

- Treatment significantly different than control (p = 0.05)
- Pre to post-increase within group (p ≤ 0.05)
- *Significance p ≤ 0.01
- **Significance p ≤ 0.001

Leader Effectiveness and Objectives Met

- Leaders rated as “very effective/effective” 97% of the time
- 91% of session objectives as met
- 88% of the time -adults as “engaged” in the program
- 91% of the time -adults as “engaged” in the program

Results: Dissemination Study

Program Outcome

Mean Differences Between1 and Within2 Control and Treatment Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooking Skills</td>
<td>1.74 ± 0.4*</td>
<td>4.057 ± 0.5***</td>
</tr>
<tr>
<td>Goal Setting</td>
<td>-0.19 ± 0.07</td>
<td>1.1 ± 2.8**</td>
</tr>
<tr>
<td>Adult</td>
<td>-0.61 ± 2.8</td>
<td></td>
</tr>
</tbody>
</table>

Evidence of Fidelity

- Leaders evaluated as “very effective/effective” throughout the study
- 91% of session objectives met
- 91% of time for adults and 88% for youth
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