A Childhood Obesity Prevention Program to Increase Cooking, Eating, and Playing Together in Families: iCook 4-H Study

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**Introduction**

Childhood obesity is a national epidemic affecting 20% of children ages 6-11 years of age but has an even more pronounced impact in Appalachia. Many factors influence the increase in childhood obesity including sedentary lifestyle and poor food choices. Therefore, to combat this trend in West Virginia, the iCook 4-H program is being implemented and disseminated across the state as well as in 4 partner states.

**Objectives**

To disseminate and implement a childhood obesity prevention program, iCook 4-H, to dyad pairs (youth and adult teams) that focuses on improving culinary skills, family meal communication, and physical activity. These skills translate into the home as dyads cook, eat and play together as a way to ward off childhood obesity.

**Curriculum at a Glance**

Adapted two existing 4-H curricula, Fast Foods and Youth in Motion with additional resources to address food safety, family mealtime, and MyPlate, the curriculum is grounded in the Social Cognitive Theory (SCT) and Experiential 4-H Learning Model.

Within eight, two hour sessions, dyads are taught the core themes through healthy recipes, fun activities, and group discussions.

**Core Themes**

- **Cook Together**
  - Learn culinary skills to prepare a healthy meal
- **Eat Together**
  - Communicate on between families at meal time
- **Play Together**
  - Get up and active as a family
- **Set Goals**
  - Achieve goals as a family to promote a healthy lifestyle
- **Set Goals**

**Curriculum Evaluations**

- **Physical Assessments**
  - Anthropometrics
- **Program**
  - 37-item questionnaire for children
  - 16-item questionnaire for adults
- **Process**
  - Surveys completed by leader and youth/adult participants following each session
- **Fidelity**
  - Completed by Extension leaders, students, and researchers
  - Each session was evaluated 9 times

**eB4CAST**

eB4CAST is a community-based research approach designed to capture the overall impact and effect of evidence based programing in implementation and dissemination. This report is the footprint created by eB4CAST which **Captures**, **Assemblies** and **Sustains** the community based research to ensure its **Timelessness**. eB4CAST has been implemented within the iCook 4-H program to better help stakeholders and community members implement this intervention at a community level. eB4CAST was created during the developmental stages of iCook 4-H when researchers found that an expanded RE-AIM framework was needed to better determine a communities’ power to change, predict the projected continuation of the program within specific communities, and to ensure that this evidence based program would preserve longevity.

**Results**

Based on 57% retention, treatment youth were higher for baseline adjusted BMI z-scores, fruit/vegetable intake (2.16 vs 1.67 cups/day; P=0.04) and dairy (0.57 cups/day; P=0.02) when compared to control youth. No intake differences remained after 1000 kcal standardization. For treatment adults versus control, food resource management was 0.87 points higher (P=0.02). Program outcomes were higher for treatment youth cooking skills (P=0.0002) and culinary self-efficacy (P=0.03) and for adults: measure of “cooking, eating, playing together” (P=0.04).

**Conclusion**

Through successful dissemination and implementation, iCook 4-H will help to combat and prevent childhood obesity in West Virginia and beyond in Appalachia. Results show positive feelings toward the program and successful implementation of the community-based tool, eB4CAST.

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