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iCook 4-H: A Program to Promote Culinary Skills & Family Meals for Obesity Prevention

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Total household food dollars spent on meals eaten away from home
- 33% in 1970 increased to 47% in 2010\(^1\)

Meals eaten outside of home = poorer diet quality \(^2\)
- For each meal consumed outside of home= increase of 130 calories per day and decrease of 2 HEI points\(^3\)

Increased frequency of meals eaten outside of home = increased BMI \(^3-6\)
Fast food is the major source of eating-out calories for U.S. adults and children

Adults age 20 and older
- Home: 69%
- Fast food: 13%
- Restaurant: 10%
- Other away from home: 9%

Children age 2-19
- Home: 67%
- Fast food: 14%
- Restaurant: 5%
- School: 7%
- Other away from home: 7%

Source: USDA, Economic Research Service analysis of 2005-08 National Health and Nutrition Examination Survey data.¹
BACKGROUND

- Foods cooked at home
  - Fewer calories and more nutrient dense\textsuperscript{7-8}
    - less total and saturated fat, cholesterol, and sodium, and more
      fiber, calcium, magnesium, vitamin C, zinc, and iron\textsuperscript{7-8}

- Lack of adult cooking skills has been identified as barrier to home cooking\textsuperscript{9}

- Cooking interventions with adults have been shown to increase
  - cooking confidence, frequency, enjoyment\textsuperscript{10-11}

- Cooking interventions have been shown to increase dietary quality with adults\textsuperscript{12-22}

Are increased cooking skills associated with reduced BMI?
The iCook Project

- Cooking lesson curriculum
  - The 4-H approach to “learn by doing” is at the heart of this project.
  - Based on the social cognitive theory
- Youth (9-10 years old) and primary meal preparer
- Designed to prevent excessive weight gain
CURRICULUM

- A six, 2 hour cooking lesson curriculum
  - culinary skills
  - family meal times
  - physical activity
  - goal setting
VIDEOS

✧ Training
  - Program Facilitators

✧ Educational
  - Cooking Skills
  - Physical Activities
  - Technology

✧ User generated
  - Cooking shows
  - Physical Activities
  - Challenges
Goal setting
Recipes
Photo sharing
Discussion boards
Status updates
CHILD ASSESSMENTS

- Anthropometrics
- Diet Quality
- Activity Level
- Cooking Skills
- Family meal-time
- Quality of Life
- Blood Pressure
ADULT ASSESSMENTS

- Food preparation skills
- Child feeding practices
- Perception of child cooking skills
- Family Meal Routine
- Quality of life
- Blood Pressure
PROGRAM ASSESSMENT

- Program
- Process
- Fidelity
PILOT TEST THE ICOOK INTERVENTION (N=48)

- Gender
  - female=72%, male=28%

- Age
  - mean age 9.7 years

- Ethnicity
  - 47% white, 18% Hispanic, 13% black, 13% Native American, 2% Asian, and 7% other
Child Pilot Study Outcomes

- Improved quality of life
  - increased based on mean scores on subscales for functioning physically, emotionally, and socially (P<0.05). (PedsQl)

- Improved cooking skills
  - Perception of ability to perform kitchen tasks increased, both alone (P<0.02) and with help (P<0.04). (Program Evaluation)
ADULT PILOT STUDY OUTCOMES

- Improved cooking skills (P=0.006)
  - Extension Behavior Checklist

- Increased fruits & vegetables (P= 0.0099)
  - Modified NCI Screener

- Improved child feeding practices (p=0.0005)
  - Birch Child Feeding Questionnaire
Family pairs of 9-10 year old youth and the primary meal preparer (n=220)

- Recruited & Randomized
- Assessed
  - baseline
  - 4 months
  - 12 months

- Data is currently being analyzed
- Will be assessed again at 24 months
PRELIMINARY FINDINGS
PRELIMINARY FINDINGS

Cooking Self-Efficacy
PRELIMINARY FINDINGS

Cooking Self-Efficacy

Cooking Frequency
PRELIMINARY FINDINGS

Cooking Self-Efficacy

Cooking Frequency

BMI
PRELIMINARY FINDINGS

Cooking Self-Efficacy
Cooking Frequency

BMI
PRELIMINARY FINDINGS

Cooking Self-Efficacy

Cooking Frequency

BMI
PRELIMINARY FINDINGS

Cooking Self-Efficacy

Cooking Frequency

Dietary Quality

BMI

$R^2 = .08, F(1,226)=11, p<.001$
Cooking Self-Efficacy
Cooking Frequency
Dietary Quality
BMI

$R^2 = .08, F(1,226)=11, p<.001$
Currently piloting dissemination materials and protocols

Will be disseminating an evidenced-based curriculum, with supporting facilitator training materials, available and free to the public to increase

- Culinary skills for child and adult
- Frequency of family mealtime
- Quality of family mealtime
- Fun family physical activities
REFERENCES


6. Bouteille KN, et al. “Fast Food for Family Meals: Relationships with Parent and Adolescent Food Intake, Home Food Availability and Weight Status.” Public Health Nutrition 2007;10:16-23. This cross-sectional survey of adolescents and parents found a positive association between adolescent fast-food intake and increased consumption of total and saturated fat. Mothers who purchased more fast-food meals had higher BMIs and were more likely to be overweight. No association between the frequency of fast-food meal purchases and BMI or weight status was observed for teens.


QUESTIONS?

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