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Cooking with a Chef

Abstract

Cooking with a Chef was created to promote healthy eating behaviors among caregivers by teaching basic nutrition and food preparation skills. A chef/dietitian team collaborated on lively, interactive cooking lessons emphasizing culinary skills and hands-on learning. Lessons were conducted in 2-hour weekly sessions for 6 consecutive weeks. Data were collected pre and post intervention using a 24-hour Food Recall, Food Behavior Checklist, and program evaluation. Cooking with A Chef had a positive effect on food-related behaviors of caregivers, suggesting that this model program is an opportunity to reach low-income families. A long-term follow-up evaluation is needed.

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Introduction

Family meals have undergone dramatic changes in the last two decades that have affected the quality of children's diets. Maternal employment, changes in family structure, and increased time pressure are factors affecting children's food choices (Escobar, 1999). Caregivers want to provide healthful food for their families, but many have not learned survival skills in the kitchen. They often come up short on meals that meet the dietary recommendations for fruit and vegetables, grains, and dairy products (Position Paper of the American Dietetic Association, 2004).

Low-income and minority families are especially at high risk for poor nutritional status and health (Lee, Hoerr, & Schiffman, 2005; Alaimo, Olson, Frongillo, & Briefel, 2001). Many of these families have limited time for food purchasing and preparation, limited access and availability to foods, limited food preparation skills, limited knowledge of proper nutrition, and limited budgets. As a result, these families' children may grow up in food-insecure households at risk for impaired cognitive development, childhood obesity, and other chronic health problems (Fleischhacker & Achterberg, 2003; Horodyski, Hoerr, & Coleman, 2004).

Expanded Food and Nutrition Education Program (EFNEP) agents identify with family's daily concern for healthy, affordable food that children will eat. Cost-effective interventions that help households manage their food resources better and improve the quality of their diets are needed (Burney & Haughton, 2002). Families need help in developing skills to plan, purchase, and prepare low-cost nutritious foods that taste good and contribute to a healthy diet.

One emerging trend that is influencing cooking in the home is the exposure of chefs. Today, the influence of the chef is evident in the media, at the supermarket, and in food service operations. Magazines, Web sites, and popular television shows bring chef tips and cooking techniques into U.S. households. Chefs are also working in the community to share their knowledge, creativity, and passion for food <<http://www.strength.org/what/operationfrontline/>>.

Studies have shown that hands-on cooking activities are a successful, innovative way to improve mealtime practices and eating habits of children and low-income families (Horodyski, Hoerr, & Coleman, 2004; Clark & Foote, 2004; Meloche, 2003). Knowledge alone is not adequate for families to make these changes (Horodyski, Hoerr, & Coleman, 2004). Cooking and tasting demonstrations with quick and easy recipes appear to be more motivating (Reed, 1994).

In the fall of 2002, a pilot program, Cooking with a Chef, was instituted at Clemson University. This program was created to increase awareness and understanding of nutrition, culinary skills, and menu planning among caregivers of preschool children. The program was designed to enhance the Expanded Food and Nutrition Education Program curriculum at Clemson University and is targeted at low-income and minority families.

Goals and Objectives

The goal of Cooking with a Chef is to promote healthy eating behaviors among caregivers and their families by teaching basic nutrition, food safety, food selection, menu planning, and food-preparation skills. The program, based on Social Learning Theory, uses a combination of educational methods to influence behavior change. The Social Learning Theory, also known as Social Cognitive Theory (SCT), assumes that personal factors, environmental events, and behaviors are interacting and reciprocal determinants of each other (Bandura, 1977). The Cooking with a Chef program uses the SCT by incorporating environmental factors, observational learning, and self-initiated behavior change.

Program Curriculum and Contents

The Cooking with a Chef program teams a chef with a dietitian in discussions and cooking demonstrations as well as hands-on-lunch preparation. Chefs were contacted through the Upstate South Carolina chapter of the American Culinary Federation (ACF). A presentation on program goals and plans for chef involvement were introduced at a monthly meeting, and three chefs volunteered to participate. The author, a registered dietitian and certified culinary educator, coordinated the sessions with the chefs.

During planning sessions, the chef and dietitian collaborated on food presentations customized to meet the topic and the foods available for the program. Participating chefs preferred a pantry method of production. Namely, the chef worked in a flexible manner to creatively utilize the commodity items as outlined in the 6-week program. These items changed according to commodity seasonal availability.

Each team-led session emphasized culinary skills, taste tests, and hands-on-learning (Table 1).

Table 1.
Cooking with a Chef Curriculum

Session	Food Item Prepared	Commodity Food Featured	Grocery Items
Menus for the family and kitchen safety	Savory Instant Microwave Soup Mix	Dried milk, potato flakes	Chicken base, aromatics, and seasonings
Fruits and vegetables and knife handling	Hearty Beef Stew Soup	Canned beef stew	Fresh vegetables, e.g., tomatoes, peas, carrots
Snack treats	Fruit and Nut Cereal Bar	Puffed rice cereal, dried cranberries, almonds	
What's for dinner? Protein foods	Creamed Bean Soup with Tuna	Canned navy beans, canned chopped tomatoes, canned whole kernel corn, canned tuna, non-fat dry milk	Fresh aromatics (onions, garlic, celery)
Special occasions and holiday tips	Birthday Banana Bread, Zucchini Bites, Fruit Pizza, Peanut Butter and Raisin Stuffed Celery, Vegetable Herb Spread on	Canned fruits, AP flour, peanut butter, raisins	

	Pita, Yogurt Smoothies		
Putting nutrition and taste together for children	Pasta Bar and Fruit Beverage Slush	Noodles, canned fruit, non-fat dry milk, tomato sauce, canned fruit juice	Ground turkey, fresh fruits, salad and vinaigrette ingredients

Culinary demonstrations highlighted tips for incorporating fruits, vegetables, and fiber into meals, snacks, and bag lunches (Table 2). Nutrition education efforts focused on ways to re-energize family mealtime while incorporating dietary needs of the entire family. Each class centered around a lively, interactive cooking lesson, with all participants in the kitchen chopping, stirring, and cooking with the help of the chef/dietitian team. The take-home message was that cooking healthy meals is fun!

Table 2.
Tips for Incorporating Fruits, Vegetables, Whole Grains, and Legumes

Fruits	Vegetables	Whole Grains & Legumes
<ul style="list-style-type: none"> ■ Serve combinations diced as salsa ■ Peel, seed, and chop tomatoes for concasse ■ Grill pineapple, peaches, and apples for appetizers, garnish, or with main course ■ Combine fruits in a compote or as a sauce 	<ul style="list-style-type: none"> ■ Weave fresh, frozen, and canned into menus ■ Select the darker, more vibrant colors that are nutrient-rich ■ Draw from traditional, ethnic favorites and regional flavors ■ Plan menus that focus on "seasonality" for maximum flavor and best price 	<ul style="list-style-type: none"> ■ Use in soups, salads, and appetizers ■ Add barley, brown rice, and oats for variety, flavor, texture, and appeal ■ Cook couscous and lentils in apple, tomato, or carrot juice ■ Use vegetable puree as a sauce

Implementation

Parents and guardians of Head Start in the Upstate of South Carolina were invited to participate. A reminder notice and follow-up phone call were used to assemble the groups. Class size was limited to 18 participants per group in order to provide hands-on-culinary skills contact. Each participant was asked to sign an informed consent form. The study was approved by Clemson University protection of human subjects committee.

The lessons were conducted in 2-hour weekly sessions for 6 consecutive weeks in classrooms at five Head Start Centers. Fact sheets and a bag of groceries with the ingredients needed to duplicate the recipe were sent home with the participants. Participants were asked to prepare the recipe of the week with their families at home. At the next session, a group discussion was led by the dietitian to determine if they made the recipe at home, if the family enjoyed it, and whether they encountered any problems preparing the recipe.

Originally, Cooking with a Chef was funded by university start-up research funds. A local supermarket provided the groceries for participants.

Incentives were provided to participants during the educational sessions. Examples of incentives include: food guide pyramid refrigerator magnet with marker, jar grip, whisk, coupon keeper, and measuring spoons. Each incentive kitchen item was imprinted with a healthy nutrition message. Recipes containing nutrition information, cost per serving, yield, and serving suggestions were provided to participants.

As a result of the pilot program, several requests have been made for Cooking with a Chef program materials. This program is intended to enhance the skills and food choice behaviors of the home cook. Because the program is held at Head Start Centers, the food service staff are invited and usually do participate in the program. This reinforces culinary skills and creates positive role model

behaviors among Head Start cooks. Head Start administrators and teachers provide assistance through reminders at classroom program meetings and by participating in the program when their schedules allow.

Instruments and Data Collection

The following instruments, developed for the Evaluation and Reporting System (ERS4) (CSREES, USDA, 2003), were used to collect pre and post-intervention data:

- Adult Enrollment Form
- Homemaker's 24-hour Food Recall Form
- Food Behavior Checklist
- Program Evaluation Form

The Adult Enrollment form is used to collect demographic data such as age, race, and residence. Caregivers were asked to complete a 24-hour Food Recall at the beginning and at the end of the 6-week program. The Homemaker's 24-hour Food Recall was used to record all foods and beverages consumed.

The Food Behavior Checklist (FBC) consists of 10 questions designed to collect information about practices in food selection, buying, preparation, and food safety (Figure 1). The response format is a Likert-type scale with five response options ranging from "Do not do" to "Almost always do." The FBC was designed using procedures as described by Perkin (1992).

Figure 1.
Food Behavior Checklist

1. How often do you plan meals ahead of time?
2. How often do you compare prices before you buy food?
3. How often do you run out of food before the end of the month?
4. How often do you shop with a grocery list?
5. This question is about meat and dairy foods. How often do you let these foods sit out for more than 2 hours?
6. How often do you thaw frozen foods at room temperature?
7. When deciding what to feed your family, how often do you think about healthy food choices?
8. How often have you prepared foods without adding salt?
9. How often do you use the "Nutrition Facts" on the food label to make food choices?
10. How often do you or your children eat something in the morning within two hours of waking up?

The Program Evaluation Form was used to elicit feedback from caregivers on each of the six cooking sessions. Additionally, the dietitian conducted informal focus group discussions at the end of each session to further evaluate the program. This anecdotal data, compiled for each of the five groups, will be useful in planning future sessions.

Data collected in the project were analyzed using the Statistical Package for the Social Sciences (SPSS, Inc., 1999). Frequencies, percentages, and test statistics were computed. P values < 0.05 were considered significant for the Program Evaluation Results, and P values < 0.10 were considered significant for the EFNEP Survey Results and the Food Recall Results. Descriptive statistics were used to summarize data on age, race, monthly income, head start, food stamp participation, WIC participation, and employment.

Results and Discussion

The study sample included five groups or a total of 41 participants (39 women, 2 men), with a mean age of 25 years. Sixty percent (60%) were African American, 30% Hispanic, and 10% Caucasian. All participants qualified for The Emergency Food Assistance Program (TEFAP) group as identified by Head Start participation.

Pre-intervention data revealed that the average number of servings from the food groups was below the recommended number of servings for all food categories (fruit, vegetables, dairy, and grain) except for the meat group. There were no differences in the recommended number of servings for fruit, vegetable, dairy, and grains from pre-intervention to post-intervention. However, positive changes from pre-intervention to post-intervention occurred on four of the food-related behaviors measured by the FBC. Following the 6-week program, caregivers were more likely to shop with a grocery list, thaw frozen foods less often at room temperature, read the "Nutrition Facts" on the food label when making food choices, and eat something within 2 hours of waking up.

Program evaluations indicated that caregivers enjoyed cooking and preparing food as well as learning about food safety and recipe substitutions. Cooking with a Chef had a positive effect on food-related behaviors, suggesting that this model program provides an opportunity to reach low-income families.

Parental comfort level in the kitchen and awareness of healthy ingredients for food preparation are necessary to provide a positive environment for pre-school children and family members. Some behavior change has been indicated in this pilot study. In order to recognize the potential benefit of Cooking with a Chef program, a long-term follow-up evaluation is needed.

Though many local, state, and national programs focus on increasing knowledge of nutrition, the practical application of that knowledge sometimes gets lost in the shuffle. Cooking with a Chef complements nutrition education with the development of simple cooking and meal-preparation skills. Together these can help make significant and lasting improvement in eating behaviors.

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