

Cooking Matters for Adults Improves Food Resource Management Skills and Self-confidence Among Low-Income Participants

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ABSTRACT

Objective: Determine the impact of *Cooking Matters for Adults* (CM) on food resource management (FRM) skills and self-confidence 6 months after course completion.

Design: Quasi-experimental design with nonequivalent comparison group and 6-month follow-up.

Setting: *Cooking Matters for Adults* programs in CA, CO, ME, MA, MI, and OR.

Participants: Participants in CM attending classes in April to July, 2016 (n = 332); comparison group (n = 336).

Intervention: *Cooking Matters for Adults* educated low-income adults to shop for and prepare healthy meals economically using hands-on meal preparation, facilitated discussion, and an interactive grocery store tour. Classes met for 2 hours, once a week for 6 weeks.

Main Outcome Measure(s): Food resource management practices; FRM self-confidence (ie, in shopping for and preparing healthy foods on a budget); worrying that food might run out.

Analysis: Pearson's chi-square test and *t* tests identified measures associated with outcomes of interest and between-group differences. Repeated-measures linear mixed models with fixed and random effects were used to examine differences in outcomes between participants in CM and nonequivalent comparison group and to estimate the treatment effect of the program at 3 and 6 months after course completion.

Results: Six months after course completion, CM participants demonstrated improvements in all outcome measures of interest: Use of FRM practices improved ($P = .002$) as did FRM confidence ($P < .001$). Participants also worried less that food would run out before they had money to buy more ($P = .03$).

Conclusions and Implications: This study demonstrated a positive impact of including FRM skills and confidence building in a nutrition education program, the effects of which could be seen for 6 months after participation in the program. Equipping low-income families with FRM skills allowed them to access healthier foods even during times of hardship.

Key Words: nutrition education, food resource management, low-income population, cooking (*J Nutr Educ Behav.* 2017;49:545-553.)

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INTRODUCTION

Poor dietary quality is a risk factor for chronic disease and the risk is significantly greater among low-income families. High-quality diets that include a high proportion of fruits, vegetables, and lean proteins have been linked to lower risk of morbidity and all-cause mortality^{1,2} whereas poor-quality diets that include a high proportion of nutrient-poor, calorie-dense foods have been associated with higher risk of obesity.³ This is a serious public health concern because research consistently shows an economic gradient in dietary quality. Higher socioeconomic

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status is correlated with better adherence to the Dietary Guidelines for Americans⁴ including increased consumption of fiber, fruits, and vegetables; and lower consumption of saturated fat and cholesterol.^{5,6} In general, lower-income families underconsume fruits and vegetables, whole grains, and lean proteins, and overconsume processed meats, sugar-sweetened beverages, and energy-dense foods compared with middle- or high-income families.⁷

The cost of food is an important factor in the selection and purchase of foods by low-income households.⁸ Studies show that less energy-dense and more nutrient-dense foods (eg, fruits and vegetables) cost more than energy-dense foods (eg, those with added sugars and fats), which makes purchasing and consuming a healthy diet particularly challenging for low-income populations.⁹⁻¹¹ Among a small sample of low-income rural adults, Peterson et al¹² found that cost, taste, and appearance of food were more important factors in food selection than were nutrient content or health. Wiig and Smith¹³ found that low-income women reported wanting more fresh fruits and vegetables and healthier foods overall, but limited budgets prevented them from purchasing these foods. These authors concluded that enhanced food resource management (FRM) skills, nutrition knowledge, and meal preparation strategies could support low-income women in achieving a healthier diet for their families.

Food resource management practices include a set of techniques that promote selection of healthy foods and cost-effective shopping. These practices can improve the quality of the shopping basket for low-income families by helping shoppers purchase healthy foods while stretching food dollars. To purchase adequate amounts of food for their families, low-income individuals may need to rely on a variety of FRM strategies such as shopping sales, looking for specials, comparison shopping among grocery stores, planning meals ahead of time, and buying bulk items.^{5,12,14} Martin et al¹⁵ found that self-efficacy in managing food resources (eg, confidence in being able to plan meals ahead of time, making a shopping list before going to the store, and making low-cost meals) was strongly associated with food security among food pantry

clients. In an evaluation of *Plan, Shop, Save, and Cook*, Kaiser et al¹⁶ found that FRM skills gained through the program significantly improved *Supplemental Nutrition Assistance Program* (SNAP) participants' food security status at 1 month postintervention. The authors noted that nutrition education interventions should incorporate a focus on FRM practices to ensure that low-income families maximize their resources and are able to make their food money last all month.

Studies of nutrition education programs for low-income adults examined FRM practices as a program outcome, because it is a key component of the *Expanded Food and Nutrition Education Program* (EFNEP) and is often found in *SNAP-Education* (SNAP-Ed) activities. For example, Brite-Lane et al¹⁷ found that Arkansas EFNEP participants saw improvements in FRM practices, including planning meals ahead of time and shopping with a grocery list. Auld et al¹⁸ saw similar results for participants in the *Eating Smart-Being Active* program. Although the results of these studies were promising, they were conducted over a short time frame^{16,19} or did not use a comparison group to validate improvements in behaviors.^{17,18}

Share Our Strength developed the *Cooking Matters for Adults* (*Cooking Matters*) nutrition education program with the goal of empowering low-income families with knowledge and skills that would allow them to shop for and cook healthy meals on a budget. The *Cooking Matters* curriculum provides participants with a mixture of nutrition knowledge, food preparation skills, and FRM skills that would enable them to shop for, prepare, and maintain a healthier diet within their limited resources. Based on Social Cognitive Theory, *Cooking Matters* aims to improve cooking and FRM skills through demonstrations and hands-on practice; in turn, these activities increase the likelihood that participants would prepare meals at home and better afford healthy foods. Building self-efficacy among participants is important in encouraging the uptake and maintenance of behaviors and skills learned during the course.

In 2014, the *Cooking Matters* Impact Evaluation was undertaken using a quasi-experimental design to examine each of the key aspects of the curriculum, because they all had an important role in empowering low-income adults

to eat more healthfully. One of the stated goals of *Cooking Matters* was to "increase knowledge of techniques that promote selection of healthy foods and cost-effective shopping so that these techniques can be applied in the participant's home to support healthy eating and resource management." This article presents the results of a quasi-experimental study that looked at the influence of *Cooking Matters* participation on FRM skills and self-confidence in managing food resources up to 6 months after program completion. This study was part of a national evaluation aimed to assess the impact of the *Cooking Matters* program, which included other measures related to the purpose of the program that are not reported here.

METHODS

Overview of *Cooking Matters*

Cooking Matters was designed for low-income adults and uses hands-on meal preparation, facilitated discussion, and an interactive grocery store tour to teach participants how to shop economically and prepare healthy meals. *Cooking Matters* participants meet for 6 weeks, once each week for 2 hours, to learn basic cooking skills and nutrition concepts, and to prepare and share a meal together under the guidance of a nutrition and culinary educator. Topics covered include, but are not limited to, selecting and preparing fruits and vegetables of all forms, making and shopping with a list, using the same ingredients in more than 1 recipe, and using the nutrition facts panel and unit price labels. The course materials and curriculum are available in Spanish and English. *Cooking Matters* also provides take-home groceries and educational tools such as recipes and materials, to assist families in stretching food budgets and preparing healthy meals at home. These efforts are intended to reinforce the skills and lessons learned in class.

Cooking Matters courses are conducted in 46 states and the District of Columbia and are organized by hundreds of program partners, such as hunger and health service organizations, SNAP-Ed grantees, and local *Share Our Strength* offices that operate on the city, regional, or statewide level. Program partners collaborate with local organizations in their service area to act

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