# Diabetes Self-Care Education: Cooking Classes as a Basis for Teaching Healthful Eating

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After realizing how little patients know about healthful cooking at home and how that affects weight, these clinicians developed and taught cooking classes to their clients struggling to manage diabetes and lose weight.

As a group of clinicians, all of the authors were struggling to help clients with diabetes and obese clients to eat more healthfully and lose weight. While troubleshooting, we identified a huge knowledge gap: Many people today don't know the basics of simple, healthful cooking.

The World Health Organization and *Healthy People 2010*, a comprehensive, national U.S. agenda for improving the health of the nation, target key dietary behaviors, including fat intake, calcium-rich foods, fruits, vegetables, and grains as indicators of healthful dietary habits.

"A lack of cooking skills may contribute to the inadequate consumption of fruits and vegetables…," wrote Winkler and Turrell.[1]

They reported that cooking skills interventions have successfully altered dietary behaviors. Larson and colleagues point to foods prepared away from home as a proxy for dietary intake high in fat. They found that young adults who reported having skills in food preparation were "more likely to meet dietary objectives for fat, calcium, fruit, vegetable, and whole grain consumption" than those who did not.[2]

In a local situation, high school students working through the University Nutrition Initiative (UNI), a University of Pennsylvania/West Philadelphia partnership, are attempting to improve community and school health. They are involved as peer nutrition educators to teach classmates how to cook. This program has evolved into creating community gardens, improving school lunch menus, and starting small businesses that create and sell healthful school snacks.[3]

Supporting the idea of cooking classes as a way to improve community health is a study reported by Wrieden and colleagues.[4] A 10-week cooking class was offered to a group in a Scottish community defined as having *low socioeconomic standing*. The aim of the course was to increase cooking confidence and food preparation skills.

One measure of improvement was increased consumption of fiber-rich carbohydrates, fish, fruits, and vegetables. Consumption of fruit increased *significantly* in the intervention group, whereas consumption of other markers was less robust when compared with that of the control group, who were to have the same cooking classes "later."

Teaching people to cook may change their food choices and improve dietary habits.

## CHOOSING THE RIGHT FOODS

Food sourcing and preparation for people with diabetes and the obese are hindered by much misinformation and myth. These practices are sponsored by an industry that promotes product sales. Special foods for people with diabetes and the obese are frequently filled with artificial ingredients, which we consider harmful to good health. We shun manufactured foods because they contain molecules essentially foreign to our bodies and may contribute to inflammation, now believed to be the root cause of many of our chronic diseases. The work and writings of nutritionist/anthropologist Loren Cordain and colleages[5] are consistent with our belief that the modern diet imposes undue stress on the human organism.

Cordain states: "In particular, food staples and food processing

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procedures introduced during the Neolithic (the 10,000 years since agriculture and animal husbandry were introduced) and Industrial Periods have fundamentally altered 7 crucial nutritional characteristics of ancestral hominin (human) diets: (1) glycemic load, (2) fatty acid composition, (3) macronutrient composition, (4) micronutrient density, (5) acid-base balance, (6) sodium-potassium ratio, and (7) fiber content."[5] We agree and recommend a return to a diet low in animal protein and processed foods and high in fruits, vegetables, and whole grains.

## GETTING STARTED

To promote healthier dietary choices and behaviors, we designed a cooking class to teach clients simple diet planning and cooking methods. We wanted this effort to be different from just demonstrating how to execute a recipe. Our aim was to liberate clients' creativity, thus adding to their sense of accomplishment and satisfaction. Among us was a nurse practitioner, a passionate cook and student of nutrition and food as medicine. She was the primary teacher. To move this effort forward we needed resources and institutional support.

The National Department of Health Promotion and Disease Prevention of the VHA called for ideas that would be used to inform veterans of the risks of obesity and diabetes and ways to minimize those risks. The most interesting projects were awarded a mini grant of support. Two thousand five hundred dollars was awarded to 41 national recipients. Only 3 of the projects dealt with food. Our proposal sought to help patients with diabetes and the obese learn how to prepare simple, healthful, economical, locally grown, seasonal meals.

In presenting the grants, Madhu Agarwal, MD, MPH, stated: "Managing obesity and diabetes isn't something that health care providers can do alone. Truly making an impact on these conditions requires a culture change—a change in the way we provide information to veterans, a change in the physical environments of our health care facilities, and a change in the way we interact with the communities in which veterans live."[6]

Most of our award money was used to buy basic kitchen supplies, such as pots and pans, dishes, place mats, silverware, and glasses, as well as pantry supplies. If a usable kitchen had been available, our expenses would have been limited to food items, which averaged about $100 per session. Originally, we had intended to place angled mirrors over the counter to enhance visibility and to record the sessions on DVD for future use. Resources, however, proved insufficient to execute the last 2 goals.

## IMPLEMENTATION

A multidisciplinary team planned monthly cooking classes around seasonally available foods. A room with a small, partially usable kitchen was reserved for the third Wednesday of the month for a year at the Philadelphia VA Medical Center in Pennsylvania. Three weeks before a scheduled class, the team discussed the menu plan and sent invitations to about 40 patients and significant others. Twenty invitations went to those participating in Management of Obese/Overweight Veterans Everywhere (MOVE!), the national VA program to help obese patients, and 20 invitations were sent to patients with diabetes participating in shared medical appointments. A phone number was provided to reserve seats. The group was limited to a total of 20 participants, including significant others, whom we encouraged to attend. The Monday before the cooking class, all reserved participants received a reminder phone call. On the day of the cooking class, participants were directed to the remote location of the kitchen by arrows strategically placed along the medical center corridors.

The class space was arranged using oblong tables set up in a *U* around the counter and cooktop. Each participant had a reserved place setting with a place mat, CorningWare dishes, and stainless-steel utensils rather than disposables. Each place setting also had a folder of handouts that included a basic pantry list, a list of needed cooking utensils, a shopping list for the day, and a list of seasonal produce and spice information.

Additionally, the team created a gracious dining atmosphere, enhancing the lesson to eat mindfully. Part of the dilemma among people with diabetes and the obese is that many have gotten used to eating mindlessly, on the run, or while doing other things. And too often, they don't even remember having eaten. Therefore, sitting down at a set table illustrates the importance of the meal and may help break these poor patterns.

Ours was a rudimentary kitchen, and we stressed that you don't need a great kitchen, fancy cookware, and an assortment of knives to create a wonderful eating experience.

The classes started at 10:30 AM. We were in the kitchen preparing by 8 AM so that we could demonstrate how to do it. We pulled out the previously prepared, ready product from the pot or oven, much like what has been seen on TV cooking shows since the days of Julia Child. At the end of the cooking demonstration, which

Figure 1. An example of a delicious, attractive, seasonal, locally grown, economical, healthful meal.

Figure 2. Ingredients for a savory, delicious, fiber-rich vegetarian Arizona border stew.

lasted about 1.5 hours, we shared and critiqued the fruits of our labor for lunch.

## THE FOOD

We chose menus based on seasonal, economical, and local fare. We also used no recipes because we believe that recipes are limiting. Using produce available seasonally, we created a well-balanced menu with the divided-plate method (½ plate for vegetables, ¼ for protein, and ¼ for other carbohydrates) (Figure 1). We showed how easy it was to create a delicious meal by using the simple methods of chopping, mincing, and peeling and by using the usual order of assembling and combining foods.

Additionally, we used different cooking styles. In a given meal we might sauté, steam, bake, or boil. We used uncommon but nutritious and economical foods, such as quinoa, brown rice, black lentils, low-glycemic-index pasta, fresh herbs, and health- and flavor-enhancing spices, such as turmeric and cumin, which have anti-inflammatory properties and add much to the flavor of foods cooked with little salt (Figure 2).

With economy of time and money as goals, we wanted the participants to realize they could prepare large quantities and freeze them for later use. We demonstrated how to cook large quantities of beans and brown rice and then package them in single portions in inexpensive sandwich bags for freezing. Another idea we shared was to save all the discards from vegetable preparation in a bag in the freezer. Over several weeks, enough can be accumulated to make an excellent and healthful broth. They loved that!

## BEING PREPARED

Having what you need at home for healthful cooking is another essential step. Being prepared with appropriate food items, avoiding inappropriate ones in the pantry and refrigerator, and having proper storage and preparation equipment available are necessities for healthful food preparation.

Thinking ahead and being organized are traits often lacking among many of our clients. To help them, we created lists of items to keep on hand in the pantry, freezer, and refrigerator at all times. Doing so would help them to cobble together a healthful meal at a moment's notice. They were

### SAMPLE MENU

**Hors d'oeuvres**
Cheddar cheese squares
– **50 calories**

**Beverage**
Homemade tea-bag iced tea
– **50 calories**

**Salad**
1 cup mixed spring greens
– **25 calories**
2 tablespoons balsamic vinaigrette
– **90 calories**

**Main course**
Green peppers – **25 calories**
2 ounces lean ground beef
– **110 calories**
⅓ cup brown rice – **80 calories**
1 cup tomato sauce
– **50 calories**
Whole-wheat bread/roll
– **160 calories**
Spices

**Dessert**
Baked apple – **60 calories plus 100 calories** for butter and brown sugar

**Total: 800 calories**

*The fall is the season for peppers, peaches, and apples. You may be able to buy them more inexpensively in bulk at places like farmers markets or at local greengrocers.*

*Freeze the cuttings from celery and onions in a bag to use in a soup later.*

*Remember to cover all leftovers. Be frugal. Use local products in season.*

taught to avoid having snack foods and comfort foods at home.

Our goals for the participants at the end of each class were to:

- Describe 1 new cooking skill that adds nutritional value to their meals;
- Name and identify 2 items of seasonal, local produce;
- Compose a well-balanced, healthful meal; and
- Recognize and avoid unhealthful food items and cooking habits.

## EVALUATION

We distributed brief evaluation forms following every encounter. The satisfaction rating was overwhelmingly positive, and many participants fought for return invitations. Most indicated they would recommend the class to another veteran. The following statements were found in the comments section of the evaluations, and they are consistent with the investigators' findings that improved cooking skills lead to improved dietary choices and behaviors:

"I loved the way Christine explained each step and made sure we understood."

"The class made me understand the importance of eating healthy."

"I feel like I'm leaving with ideas and knowledge rather than a bunch of recipes."

"I learned about and tasted different things than I had ever tried before and liked it."

"I feel like I learned to cook and eat healthier with foods I didn't know were so good."

"Wonderful conceptual ideas that can transform the way you eat, cook, live."

Walt Lumley, RN, CDE, a colleague who teaches patients newly diagnosed with diabetes, wrote: "I have had several patients who attended cooking class in my follow-up program state that they felt more confident about making a good-tasting meal and still keep their glucose under control.

"The coleslaw that did not have any mayo was greeted with concern, but I know of 3 people including myself who routinely use that 'recipe' to supplement their diet. This program would be beneficial if presented again." ●

*Author disclosures*

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