Brief Report

Developing a Cookbook with Lifestyle Tips: A Community-Engaged Approach to Promoting Diet-Related Cancer Prevention Guidelines

Selina A. Smith, PhD, MDiv1,2, Joyce Q. Sheats, RN, MPH1, Mary S. Whitehead, MPH, CHES3, Ernestine Delmoor, MPH4, Thomas Britt, MD, MPH5, Cassandra L. Harris, MS, MCHES6, Janette Robinson-Flint7, L. Monique Porche-Smith, MS8, Kayellen Edmonds Umeakunne, MS, RD, LD9, and Steven S. Coughlin, PhD10

1Institute of Public and Preventive Health and Department of Family Medicine, Medical College of Georgia, Georgia Regents University, Augusta, GA, USA
2Cancer Research Program, Morehouse School of Medicine, Atlanta, GA, USA
3Florida Resources for Enhancing and Sustaining Health, Miami, FL, USA
4National Black Leadership Initiative on Cancer, Philadelphia Chapter, Philadelphia, PA, USA
5National Black Leadership Initiative on Cancer, Chicago Coalition, Chicago, IL, USA
6National Black Leadership Initiative on Cancer, Houston Coalition, Houston, TX, USA
7Black Women for Wellness, Los Angeles, CA, USA
8International Culinary School at the Art Institute of Atlanta, Atlanta, GA, USA
9Bionutrition Core and Body Composition Laboratory, Clinical Research Center, Morehouse School of Medicine, Atlanta, GA, USA
10Department of Health Science and Sustainability, Division of Public Health, University of Massachusetts, Lowell, MA, USA

*Corresponding author: Dr. Selina A. Smith, Professor and Director, Institute of Public and Preventive Health, Georgia Regents University, 1120 15th Street, CJ2300, Augusta, GA 30912 Tel: (706) 721-1104; Email: SESMITH@gru.edu

Received: 07-12-2015
Accepted: 07-21-2015
Published: 07-24-2015
Copyright: © 2015 Selina

Abstract

Supplementing nutrition education with skills-building activities may enhance community awareness of diet-related cancer prevention guidelines. To develop a cookbook with lifestyle tips, recipes were solicited from the National Black Leadership Initiative on Cancer (NBLIC) community coalitions and dietary intake advice from participants in the Educational Program to Increase Colorectal Cancer Screening (EPICS). With guidance from a chef and registered dietitian, recipes were tested, assessed, and transformed; lifestyle advice was obtained from focus groups. The cookbook with lifestyle tips, named “Down Home Healthy Living (DHHL) 2.0,” was distributed in print form to 2,500 EPICS participants and shared electronically through websites and social media.

Objective

Food consumption is influenced by various interacting factors, including group processes [1]. Supplementing traditional nutrition education with experiential, skills-building activities (e.g., recipe modification, and cookbook development) can enhance awareness of diet-related cancer prevention guidelines (D-RCPGs). The objective of this study was to...
document the development of a cookbook of healthy recipes with lifestyle tips to promote awareness of D-RCPG in African American communities. This article describes a community-engaged process for transforming main dishes, side dishes, snacks, and desserts into healthier options and for presenting advice on dietary and physical activity in print and electronic versions of a cookbook.

**Methods**

This mixed-method study was completed in three phases from 2013-2015. Figure 1 illustrates the timeline with milestones for recipe collection, testing, and refinement of the DHHL 2.0 Cookbook. The Institutional Review Board of Georgia Regents University approved this study. In Phase 1, community coalitions implementing EPICS, a 5-year, cluster randomized control trial conducted in 18 US communities, were invited to submit recipes [2].

During Phase 2, recipes were transformed, refined, and prepared by a chef with input from a registered dietitian. The process included a nutrition lecture, a cooking demonstration, and a taste test. The dietitian discussed the D-RCPGs in the lecture, which was followed by a cooking demonstration of selected, modified recipes. Tasting samples were distributed, and participants completed a sensory evaluation of the appearance, taste, texture, aroma, and overall acceptability of the dishes. Using a Likert scale, participants were asked to rate each dish from 1 (unattractive; flavor did not appeal to me; inappropriate texture; unappetizing aroma; unacceptable) to 5 (extremely attractive; tasted great; great texture; smelled good; extremely acceptable). Comments of the raters were considered, recipes were revised and finalized, and nutritional analyses were completed using ESHA Food Processor SQL Version 10.5.2, Nutrition and Fitness Software (ESHA Research, Salem Oregon) [3].

For the final phase, four focus group discussions among EPICS participants in Miami, Chicago, Philadelphia, and Los Angeles were conducted to ensure acceptability of messages related to lifestyle (diet and physical activity).

**Figure 1. DHHL 2.0 Timeline with Milestones**

- **January-June, 2013**
  - Recipe collection

- **September-December, 2013**
  - Testing

- **January-October, 2014**
  - Lifestyle advice

- **May-December, 2015**
  - Cookbook distribution

  - Call for recipes from NBLIC community coalitions
  - Recipes submitted and reviewed by chef
  - Transformed by chef with input from registered dietitian

  - Community nutrition education lecture and cooking demonstration held
  - Recipes selected from cookbook categories (entrees, snacks and desserts)
  - Sensory evaluation completed
  - Recipes finalized with community input
  - Nutritional analyses completed

  - Reviewed scientific literature, existing community resources and consulted experts in the field regarding cancer prevention guidelines
  - NBLIC community coalitions organized 60-minute focus group discussions
  - Targeted four D-RCPGs: portion control; red and processed meat; vegetables/fruits; and whole grains

  - Printed Cookbooks
    - 125 distributed to each NBLIC community coalition
  - Electronic Cookbooks
    - Academic and community partner websites
    - Newsletters
    - Social Media

**Results**

Eighteen NBLIC community coalitions submitted 40 recipes to the EPICS Coordinating Center. These were reviewed for originality, cultural appropriateness, and acceptability for the cookbook. A team, including EPICS researchers and staff, met
Four focus groups (n = 43; mean age: 57.32 years; standard deviation [SD]: 7.91; range: 35–75 years old) were completed in Miami, Chicago, Philadelphia, and Los Angeles. Themes emerging from content analysis converged into the following categories: 1) practical guidance on measuring ingredients; 2) best ways to prepare healthy meals; 3) health benefits of fruits and vegetables; and 4) recommendations for physical activity. The cookbook with lifestyle tips, “Down Home Healthy Living 2.0,” was distributed in print form to 2,500 EPICS participants and was shared electronically through websites and social media [6].

Discussion

Cookbooks and nutritional education resources have been developed and utilized as part of health promotion efforts in diverse communities [7,8]. Relatively few cookbooks and related dietary resources, however, have been developed using community-based participatory approaches. Resources that are culturally appropriate and tailored to the target audience are more likely to be disseminated and widely used.

Thirty-six African American men and women, ages 22-86, participated in a 2-hour nutrition education, cooking demonstration, and taste-test of eight transformed recipes. Table 1 includes a summary evaluation of the tested dishes. Most participants (74%) rated dishes as 5 on appearance (extremely attractive); taste (tasted great); texture (great texture); aroma (smelled good); and overall acceptability (extremely acceptable). However, Green Beans & Potato Salad with Dill-Lemon Aioli was rated 2 - 3 as unappetizing, off flavor, off texture, unappetizing aroma, and moderately acceptable. Recipes with overall acceptability of 4 or 5 were included in the cookbook.

Table 1. DHHL 2.0 Recipe Sensory Evaluation.

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Appearance</th>
<th>Taste</th>
<th>Texture</th>
<th>Smell</th>
<th>Acceptability</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey Sausage, Kale &amp; White Bean Soup</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>“Excellent soup with good flavor” “Seasoned well, didn’t miss the salt”</td>
</tr>
<tr>
<td>Green Beans &amp; Potato Salad with Dill-Lemon Aioli</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>“Weird combination” “Potatoes and green beans not a good mix?”</td>
</tr>
<tr>
<td>Pan-Seared Balsamic Chicken</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>“Delicious; wanted more” “Balsamic a bit strong”</td>
</tr>
<tr>
<td>Baked Parmesan &amp; Herb Crusted Tilapia</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>“Nice”</td>
</tr>
<tr>
<td>Wokky Greens</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>“Great flavor” “Not tender enough”</td>
</tr>
<tr>
<td>Dirty Rice</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>“Tasty” “Too much for a side dish”</td>
</tr>
<tr>
<td>Whole Wheat &amp; Honey Cornbread</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>“Smells great”</td>
</tr>
<tr>
<td>Peach Crisps Cups</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>“Very good and healthy”</td>
</tr>
</tbody>
</table>

Consumers are frequently bombarded by the news media, television cooking shows, food blogs, word-of-mouth, and other channels with confusing and contradictory information about nutrition and food choices [9,10]. As a result, consumers may be confused about wise food selections or be left with the impression that everything we eat causes cancer or other chronic illnesses [11]. Carefully developed cookbooks and related educational resources can serve as useful sources of information for consumers seeking to lower their risk of chronic illness by adopting or maintaining a nutritious diet. The National Institute of Health Division of Nutrition Research Coordination has highlighted the need for additional research on how best to deliver nutritional education in diverse communities [12].

The Institute of Medicine (IOM) and other groups have provided readily accessible information to nonscientists to enable people to reduce their risk of diet-related chronic illnesses, including common forms of cancer [1]. The IOM’s Eat for Life report provides practical recommendations on what foods to eat and useful information on how to read food labels while shopping, cooking (e.g., how to turn a high-fat dish into a low-fat dish), and eating out (e.g., how to read a menu with nutrition in mind) [1]. Other sources of evidence-based information about diet and nutrition include the Centers for Disease Control and Prevention, the U.S. Department of Agriculture, the American Cancer Society, the American Heart Association, the American Diabetes Association, and the World Health Organization.

Acknowledgements

This work was funded by the Prevent Cancer Foundation (Community Grant) and the National Cancer Institute (SR01CA166785; U54CA118638). The authors wish to acknowledge the contributions of NBLIC Community Coalitions; Benjamin Ansa, MD, MSCR; Mechelle Claridy, MPH; and Brittnay Fontenot, MPH Candidate.

References


2. Smith SA, Blumenthal DS. Efficacy to effectiveness transition of an educational program to increase colorectal cancer screening (EPICS): study protocol of a cluster randomized trial. Implement Science. 2013, 8: 86.


5. NVIVO 10 Vivo qualitative data analysis software; QSR International Pty Ltd. Version 10, 2012.


