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How Culinary Nutrition Can Save the Health of a Nation

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Abstract: Culinary nutrition is the practicality needed to make a difference in our nation's health. With rates of obesity and overweight rising and some of the top causes of American deaths being related to poor diet, the nation needs nutrition intervention that stretches across many of the barriers that prevent healthy eating practices. However, making nutrition principles easily accessible is useless without also making them applicable. Therefore, hands-on culinary nutrition outreach programs focused on producing sustainable healthy eating behavior through culinary confidence and nutrition alertness are a successful approach to begin the restoration of our nation's health.

What Culinary Nutrition Means

Culinary nutrition is the application of nutrition principles combined with food science knowledge and displayed through a mastery of culinary skills. The results formed from the merging of nutrition and food science with the culinary arts are healthy eating behaviors produced from culinary confidence and nutrition alertness. Current examples of culinary nutritionists are the pairing of chefs with nutrition educators, most often seen in community outreach programs.

Together this team bridges the gap between the culinary and nutrition worlds and is able to meet the qualifications set by both fields individually and also set a standard for the meshing of the two. The different worlds of nutrition and culinary arts must be available to one another in order to successfully translate nutrition concepts and healthy cooking techniques into sustainable eating practices that will save the health of this nation.

Why Americans Need a Nutrition Intervention

Today, with four of the top 10 causes of American deaths, heart disease, cancer, stroke, and diabetes being related to poor eating behavior, now is the time for a national nutrition intervention (Heron, 2004). Rates of overweight, obesity, and the associated health risks continue to rise. In fact, the prevalence of obesity has increased in all age groups of children from ages 2 to 19 years old (CDC, 2009). The United States

Department of Agriculture (USDA) reported that from 1985 to 2000, Americans increased their caloric intake by 12% or approximately 300 calories per day (Putnam, Allshouse, & Kantor, 2002).

Studies show that the combination of insufficient vegetable and fruit consumption, increased frequency of away-from-home meals, poor food preparation skills, and increased portion size have all contributed to the rise in obesity and related chronic diseases (Rafioura, Sargent, Anderson, & Evans, 2002; Lino, Gerrior, Basiotis, & Anand, 1998). With 66% of adults, and 17% of children considered overweight (NCHS, 2006), Americans are by no means hungry, but they are starving for more knowledge concerning two things: nutrition and cooking.

Luckily, there is a growing interest in cooking and nutrition due to the increasing number of celebrity chef personas, cooking magazines, as well as cooking-related television shows and segments. Although there seems to be a mounting curiosity in these areas, the interest is not being met with the nutrition knowledge to link the cooking techniques to effectively alter eating behaviors.

Due to an increase reliance on convenience, Americans possess drastically different cooking and eating practices compared with previous generations. In fact, the percentage of the food budget spent on away-from-home food has been gradually increasing since the mid-1970s, and today Americans spend approximately 49% of their food budget and take in 32% of their calories on away-from-home foods (USDA, 2007). Less cooking at home and more eating out means nutrition is most likely compromised because away-from-home foods usually contain less fruits, vegetables, and milk while supplying more saturated fat and calories (Keystone, 2006).

There seems to be a building evidence to link the trend of poor dietary habits with the lack of cooking at home and nutrition knowledge. The 1994-1996 Continuing Survey of Food Intakes by Individuals suggests that people with a greater knowledge of nutrition eat a healthier mix of vegetables than people with less nutrition education (Guthrie, Lin, Reed, & Steward, 2005); however, according to the 2006 Keystone Forum Report, many Americans simply lack the knowledge of how to purchase and prepare foods for healthy meals (Keystone, 2006). In a study of obesity prevention and health promotion, nutrition education received a much greater emphasis when compared to physical activity or media education in obesity prevention (Lanigan & Power, 2008). Some research suggests cooking skills are declining, thus impairing the public's ability to prepare nutritionally sound meals (Short, 2003). Now more than ever, Americans yearn for a better grasp of what healthy really looks, tastes, and feels like.

Why Nutrition Needs the Culinary Arts

Nutrition and culinary arts, which have two seemingly separate identities, are now needed as one entity working together for a common cause of outreach during this national health crisis. While the fundamental knowledge of nutrition and science-based principles is needed for the rationalization of appropriate eating behaviors, this knowledge requires a greater level of application to be successful at creating and maintaining healthy eating practices. In other words, making vital nutrition information easily accessible is useless without also making it practical.

Knowledge alone has proven ineffective in altering eating behavior, but the offering of hands-on cooking and tasting demonstrations appears to be far more encouraging (Horodyski, Hoerr, & Coleman, 2004). Therefore, the pairing of this informative field of study with the hands-on practice of the culinary arts is a natural way to further nutrition awareness and knowledge. Cooking education can provide participants with a sense of control over the ingredients, preparation style, and portion size of foods eaten (Lang & Caraher, 2001). Pairing culinary with nutrition incorporates food qualities like taste, satiety, and appearance along with nutrition goals (DeAngelis, Blenkiron, & Vieira, 2001). Applying nutrition principles to food

preparation transforms learning into a delicious, nutritious experience by allowing people to actually see, feel, and taste what nutrition is all about.

How Culinary Nutrition Programs Can Help Eating Behaviors

In order to improve the poor eating and cooking habits in our homes, communities, and cities, the concepts of culinary nutrition must be shared. While nutrition and health intervention programs have traditionally focused on changing knowledge, attitudes, and behaviors, the addition of hands-on cooking activities allows all three focus areas to come together (Lang, Caraher, Dixon, & Carr-Hill, 1999). Nutrition classes will most likely lead to more nutrition knowledge but not necessarily changes in dietary habits, and cooking classes only enhance cooking capabilities and do not usually translate into healthy cooking. Although cooking skills alone, without other diet-related education, will not completely change eating behaviors, there is a connection between confidence in cooking abilities and healthy eating habits (Lawrence, Thompson, & Margetts, 2000). General knowledge about nutrition, analytical skills for planning and evaluating nutritionally-sound meals, technical knowledge, and refined cooking skills are all needed in order to reform eating behavior (Lawrence, Thompson, & Margetts, 2000).

One way of implementing culinary nutrition is through hands-on education programs. While there are numerous nutrition education programs and just as many cooking programs, there are very few that pair the two fields together. Although the literature is limited, researchers have begun to evaluate the effects of implementing cooking activities into nutrition education programs, and they have found preliminary evidence signifying that an increase in cooking knowledge and skills can help improve eating behaviors (Condrasky, Griffin, Michaud, & Clark, 2010). With all sorts of barriers for maintaining a healthy lifestyle, such as frequency of dining out, lack of time or money, taste preferences, and lack of nutrition knowledge and skills, developers of successful nutrition education programs must broaden their scope of implementing nutrition in a quick, easy, affordable, and convenient manner (Fitzgerald & Spaccarotella, 2009). Some examples of successful nutrition education programs with a culinary emphasis include the following.

- **Cooking Up Fun!**, developed by Cornell Cooperative Extension, encourages healthy food practices and positive youth development through a series of hands-on food preparation lessons (Cooking, 2008).
- **Eating Right is Basic** is a series of 18 lessons that include hands-on activities such as food preparation and tasting. Participants learn to manage their resources, improve their decision-making, and become more self-reliant (EFNEP, 2008).
- **Expanded Food and Nutrition Education Program (EENEP)**, by The Cooperative State Research, Education, and Extension Service (CSREES), is a program designed to assist limited-resource audiences in acquiring the knowledge, skills, attitudes, and changed behavior necessary for nutritionally sound diets and to contribute to their personal development and the improvement of the total family diet and nutritional well-being (EENEP, 2008).
- **Share Our Strength: Operation Frontline**, supported by Tyson Foods, is a 6-week nutrition education course that focuses on teaching families nationwide how to prepare affordable and nutritious meals. Dietitians and trained chefs work cooperatively to educate participants about basic

nutrition, food resource management, and healthy cooking techniques (Share, 2007).

- **Cooking with a Chef**, created by Clemson University, is a hands-on, nutrition education program that provides an intense learning experience to help boost the nutrition knowledge as well as cooking confidence of participants (Condrasky, 2006). Through the pairing of a chef with a nutrition educator, topics such as knife skills, basic cooking methods, ways to incorporate more whole grains, flavor combinations that help lower sodium intake, and how to use balance and variety when creating menus are brought to life in an enjoyable, easy to comprehend manner.

How to Expand Culinary Nutrition

Outreach programs are not the only means of impact that culinary nutrition can have on a national health crisis. Figure 1 illustrates other areas of implementation for culinary nutrition to provide continuing impact on eating behaviors. Because the frequency of eating out and the prevalence of obesity have increased dramatically over the past few decades, the importance of controlling the portion of food served in restaurants is more important than ever (Condrasky & Hegler, 2009).

Figure 1.
Illustration of the Expansion of Culinary Nutrition



While studies show that many chefs prepare meals that are inconsistent with U.S. dietary guidelines, they also reveal chefs as recognizing the importance of menu planning as well as their desire for a better understanding of nutrition (Condrasky & Hegler, 2009). Chefs are looking to educators, nutritionists, and other outside sources for the answers to their questions in order to better understand the nutritional needs of their customers (Condrasky, Warmin, Wall-Bassett, & Hegler, 2008). They want to not only understand what

"healthy" means but also how to market it to their customers (Condrasky, Warmin, Wall-Bassett, & Hegler, 2008). Exposing chefs to the ideas and concepts that make up culinary nutrition is just another means of creating healthy eating behaviors through dining experiences.

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