

Breakfast Blitz: An Innovative Nutrition Education Program

Good nutrition is a key to preventing childhood obesity. Learn how breakfast can be an important part of the prevention effort.

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Childhood overweight and obesity are major problems in the United States, with important consequences for our nation's health and economy. The link of obesity to health issues, including cardiovascular disease, diabetes, stroke and some cancers, which persist into adulthood, is well documented. More recent studies have examined overweight and obesity in relation to household food insecurity (Metallinos-Katsaras, Must, & Gorman, 2012). The Annie E. Casey Foundation (2013) reported the number of children who live at or below the poverty level as 16.4 million or 23 percent. Food insecurity can occur when families are struggling to maintain access to nutritious and safe food due to lack of money and other resources (Coleman-Jensen, Nord, & Singh, 2013).

As low-income families struggle in tough economic times, levels of food insecurity rise. Inadequate access to healthy, affordable food and lack of variety are noted in food insecure households. More frequent consumption of high-fat fast foods, also associated with food insecurity, leads to decreased consumption of nutrient-dense foods such as lean meats, dairy, whole grains, fruits and vegetables. Eating fewer family meals and breakfast meals is likewise associated with food-insecure children (Bruening, MacLehose, Loth, Story & Neumak-Sztainer, 2012).

Breakfast is considered the most important meal of the day, yet children, adolescents and adults skip breakfast on a routine basis. This habit of breakfast skipping is related to weight gain, higher body mass index, and obesity (Leidy, Ortinau, Douglas, & Hoertel, 2013). Kaisari, Yannakoulia and Panagiotakos (2013) concluded that there is an inverse relationship between eating frequency and overweight/obesity in children and adolescents. Children who eat breakfast perform better, exhibit more energy and demonstrate improved behavior and attentiveness (McIndoo, n.d.). Benefits for adult

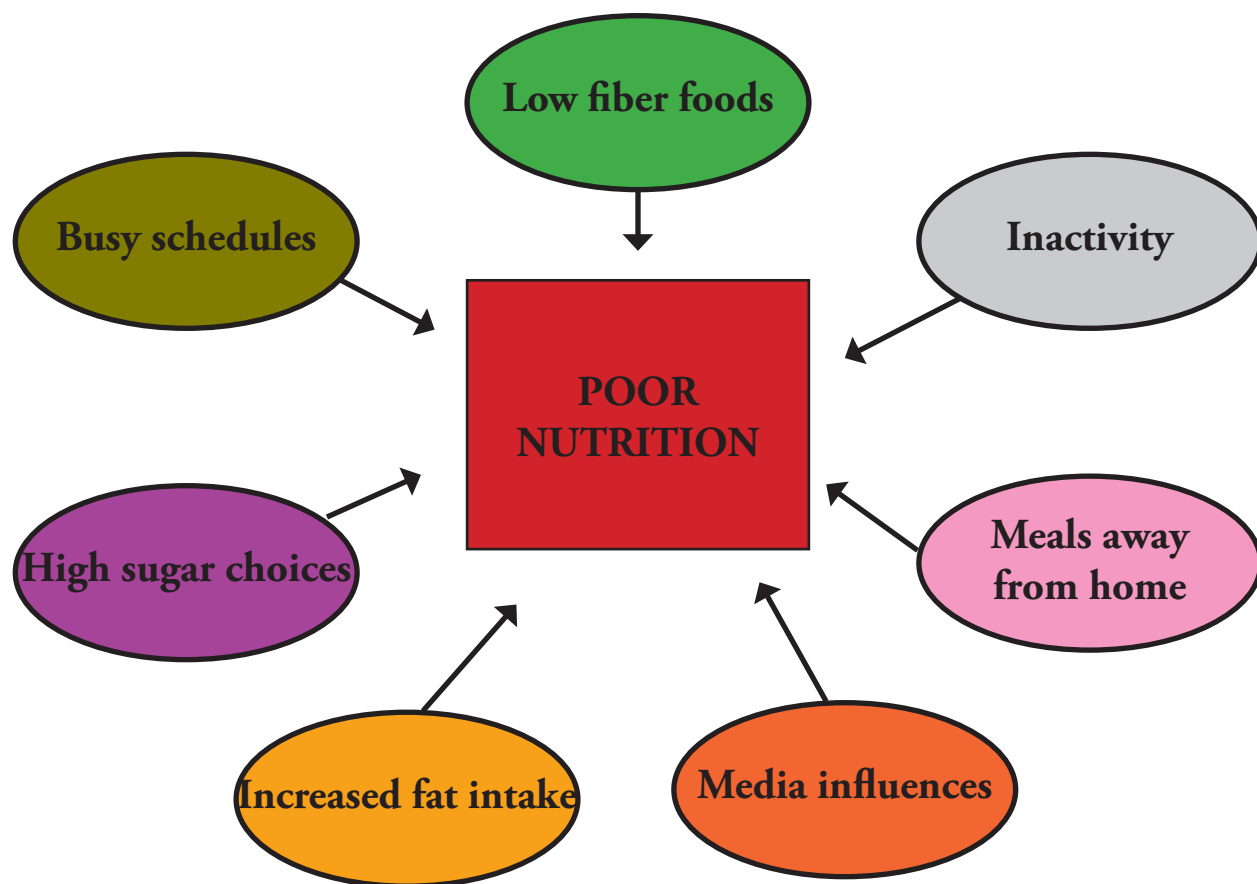
breakfast eaters also show decreased risk for heart disease and type 2 diabetes. There are also advantages of breakfast for boosting metabolism, improving mood, aiding in weight control, adding fiber, and nutrients to daily intake, among others (Schaeffer, 2011).

In looking close to home, the Mississippi Delta region of Arkansas has a large underserved population in terms of poverty, education, and food insecurity. Thirty percent of children in Arkansas are overweight or obese (Center for Disease Control and Prevention, 2012). These children are at risk for poor nutrition. Practical interventions, such as nutrition education, dietary counseling, parenting skills, and behavior strategies are recommended to improve the diets of young children in an effort to prevent obesity (Benjamin Neelon & Briley, 2011).

Such recommendations provided a starting point for three faculty members in the nursing and health professions department at a southern university to develop a program and work with area parents and children on incorporating healthy breakfast habits. The purpose of our innovative nutrition education program called "Breakfast Blitz," was to promote healthy eating through good nutrition. This program targeted families with young children in an effort to improve weight status and the quality of the household diet, particularly at the morning meal, reducing the risk for major chronic disease. The program was offered at the child development center on the university campus, which provided an ideal setting to intervene with a high-risk target audience and impact the chronic problems that exist in the region.

Two Advanced Practice Registered Nurses, each board certified in diabetes management, and a Registered Dietitian served as the inter-professional teaching staff. The program provided an opportunity for the educators to showcase their skills and expertise in an interactive

Figure 1: Possible Causes of Poor Quality Diet



teaching and learning environment. In the classroom setting of the child development center, parents participated in hands-on experiences as they were engaged in learning through return demonstrations with food model replicas and simple meal preparation.

Target Audience

The target audience included parents and caregivers of preschool-aged children who attend the university's day program. The model center and training facility serves children ages six months through four years; there are seven classrooms with an approximate enrollment of 100 children. The programs were conducted in two classrooms within the center. The population served by this center is not typical of university childcare programs where most of

the children's parents are employed at the university. Both the parents and children were representative of a wide variety of race, ethnicity, age, socioeconomic, and educational backgrounds. Many parents are enrolled as university students or work in the local and surrounding communities of northeast Arkansas.

Various factors, as shown in **Figure 1**, contribute to poor quality diets in many families with young children (Center for Disease Control and Prevention, 2011). This target audience appeared to be no different than what is normally seen in today's society.

The program participants were single and two-parent families as well as grandparents. **Table 1** categorizes the participants by age, showing a broad range from 21 to 60. The audience also represented a culturally diverse population, including

African-American, Asian, White and Latino families. Education level of group attendees varied from high school diplomas to graduate-level degrees. Cultural differences were apparent in eating habits, meal patterns, food choices and health beliefs as participants progressed through each lesson. For example, rice and beans were the important staples in the diets of Latino families, even as breakfast foods. White and African-American families reported ready-to-eat breakfast pastries and cereal with milk as traditional choices for the morning meal.

Description of the Program/Intervention

Four lessons focusing on healthy breakfast habits were presented to the target audience. Specific objectives for each lesson are shown in

Table 1: Age Ranges of Program Participants

Age Ranges				
Group	21 - 30	31 - 40	41 - 50	51 - 60
1	12	14	2	4
2	5	8	0	1

Table 2: Lesson Objectives

After participating in the healthy breakfast program, parents will be able to:
1. Verbalize three reasons why breakfast is important.
2. Brainstorm ways to overcome breakfast barriers.
3. Decipher the Nutrition Facts label on breakfast items.
4. Select healthy breakfast cereals and appropriate portion sizes.
5. Choose nutrient-rich foods for morning meals.
6. Plan five healthy breakfast meals for weekdays or weekends.
7. Prepare quick and healthy breakfast foods.
8. Practice food safety guidelines in food preparation.

Table 2. Information on nutrition knowledge, behaviors and demographics was collected at the beginning and end of the lesson series.

A variety of teaching strategies and aids were utilized in presenting the lessons to create an atmosphere of active learning and to facilitate reaching the objectives.

- Brainstorming activity
- Bulletin board display
- DVD and listening guide
- Group discussions
- Hands-on activities
- Reading labels on breakfast foods
- Measuring cereal portions
- Counting sugar cubes to visualize sugar content
- Planning breakfast meals with food model replicas
- Handouts and bookmarks
- Posters
- Power point presentation

Lesson One began the series with breakfast benefits, barriers to eating breakfast regularly and strategies to overcome those barriers. The health benefits of breakfast were presented using discussion and via power points slides. Participants shared reasons they don't eat breakfast, which transitioned to a discussion of strategies to overcome these barriers.

Topics for **Lesson Two** included how to read nutrition labels, select healthy cereals and consume appropriate portion sizes. A video on food labels introduced the topic; a listening guide was provided to emphasize the key points presented in the video. Actual ready-to-eat cereals, cereal bars, and other breakfast items were used to review pertinent information such as calories, fat, sugar, and fiber. Participants chose the healthiest examples and practiced measuring appropriate serving sizes after reading the label. Various bowl sizes were available to make the activity realistic. Sugar cubes were counted by participants and displayed to help

the group visualize the sugar content of available breakfast foods.

The focus for **Lesson Three** was to balance carbohydrates, proteins and fats in the morning meal and to plan a healthy breakfast. The key recommendations of the Dietary Guidelines for Americans 2010 and My Plate served as the basis for planning a healthy meal. The goal was to balance calories in order to achieve and maintain a healthy body weight, increase intake of nutrient-dense foods, reduce intake of foods that are high in sodium, fat, and added sugars, and build a healthy eating pattern. The relationship of various food components to chronic diseases such as diabetes, heart disease, hypertension, and obesity was emphasized in this lesson. Participants utilized food model replicas to plan healthy breakfast meals, which represented the major nutrients in foods: carbohydrates, protein and fat. A variety of food model replicas were available for the activity, including both traditional and ethnic choices for the morning meal, representing relevant cultural practices among the families. Sandwich, soup, and pizza slice replicas were also on hand as possible alternatives for typical breakfast foods.

These also serve as examples of leftovers that can be used for nourishing a hungry body in the morning, whether a child or adult.

Lesson Four included a review of food safety basics in the kitchen and preparation of quick and healthy breakfast foods. The four simple steps to food safety were emphasized in this class: clean, separate, cook, and chill. Food safety slogans, such as "when in doubt, throw it out," were used to help participants remember to put these steps into action in their home kitchens.

Hands-on food preparation of quick and healthy breakfast foods engaged the participants in group “cooking” activities. Fruits smoothies, whole grain waffles with toppings, and cheese quesadillas with salsa were prepared in three stations around the room. Foods were then sampled and evaluated by the participants.

Attendance was encouraged for the lessons by registering for door prizes to be given away at the conclusion of the series. The door prizes were small appliances that could be used for quick food preparation for all meals, not just breakfast. The choice of small appliances reflected one of the recurring themes in the program, which was to eat more family meals at home, rather than driving through fast food restaurants or buying meals at the local convenience store to be eaten in the car.



Photo by Subjects and Predicates

Starting the day with breakfast is important for children and adults.

Parent education is a key to healthy diets for young children.

Lessons Learned

Consistent attendance and participation in the breakfast program by parents and caregivers was a challenge. One program a month was scheduled, so in the span of four months, attendance was sporadic at best. Parent numbers were small and declined as time progressed. This might not be a significant problem in larger facilities.

The time chosen at the end of the day was the time parent meetings were normally held at the facility,

but parents and caregivers picking up young children were ready to go home. Door prizes and food did not appear to be motivating factors for attendance.

Food preparation by adults in the rooms at the childcare center was not ideal. Hand washing facilities were available, but suitable space for simple recipes to be created was limited. With furniture and set-up designed for children, adults were not comfortable during the lessons in the small chairs. So the choice of location is an important factor to be considered.

Replication of Program

The breakfast program could easily be replicated in other childcare centers throughout Arkansas and the nation. However, the availability of healthy food will vary in each region. Chronic diseases and conditions that are pertinent to different geographical areas could easily be adjusted to change the focus of the lessons. Obesity, diabetes, cardiovascular disease, hypertension and anemia are prevalent topics in the Mississippi Delta, which includes Arkansas, among



Photo courtesy of J. Salter

Healthy eating habits start at home. Broccoli anyone?

other states (Center for Disease Control and Prevention, 2012). Much of the discussion in the lessons revolved around those chronic conditions.

The addition of teaching staff in related disciplines, as well as nursing and nutrition, would provide more inter-professional opportunities and collaboration in other university settings. Realistically, not all centers have access to nearby universities for such resources. The basics of healthy eating, not only at breakfast, but also at all meals, especially for families with young children, are suitable for any area across the United States.

Further Interventions

Educational programs provide opportunities to involve parents and caregivers in making better food choices and preparing healthier meals for their children. Efforts to teach, support, and work with young children and their parents

are recommended to improve their eating habits and ultimately reduce childhood obesity and risks for chronic disease. These are timely and pertinent topics for parent involvement programs.

Ideas for parent involvement activities that teachers can implement in their classrooms include:

- Start vegetable and herb seeds indoor to be transplanted in a family garden.
- Taste new fruits or vegetables such as kiwi, pomegranate or chickpeas.
- Share favorite food-related children's books.
- Invite a family to talk about traditional breakfast food in their culture.
- Explore healthy eating resources on the Internet such as www.eatright.org, www.eatright.org/kids, or www.myplate.gov.

- Search out a local extension agent, dietitian or family and consumer science teacher to present a program on healthy and quick breakfast ideas.

Additional programs with consistent parent participation and attendance would allow more formal data collection, including demographics, and interpretation as to the benefits of nutrition education in changing eating habits to improve the health of families with young children. Other interventions, such as physical activity programs, could also be incorporated to help reach this goal.

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