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Developing Healthy Eating Habits: Research-Based Strategies for Early Childhood Programs

By Ani N. Shabazian



Early childhood is a critical period in the development of children's eating habits and good nutrition. Wholesome nutrition is critical in that it promotes cognitive, social, emotional, and physical development and contributes to an increased sense of confidence and self-worth (Food Commission, 2001). During the past two decades, however, children's nutrition and diet have come into question because the number of overweight and obese children has risen to alarming levels worldwide. The obesity rate of adults residing in the United States ranks as one of the

highest in the world (Finucane et al., 2011). This epidemic of childhood obesity has led researchers to explore the causes of, as well as find ways to prevent, obesity.

Researchers have identified diet as an essential factor in the development of overweight children (O'Dea & Wilson, 2006). Further, longitudinal studies of dietary intake have illustrated continuity in food choices over childhood (Skinner, Carruth, Bounds, Ziegler, & Reidy, 2002; Zive, Berry, Sallis, Frank, & Nader, 2002), and even from adolescence to adulthood (Lake, Mathers, Rugg-

Gunn, & Adamson, 2006). Consequently, it is important to focus on the early years, as they appear to be, among other things, the formative years in the developmental trajectories for children's diet and, thus, subsequent long-term health.

The Importance of Nutrition in Early Childhood Settings

Today, children's eating patterns are influenced not only by their parents, but also by their non-parental caregivers. As the number of working women with children under the age of three has increased, so has the enrollment of children in non-parental child care programs. Nationwide, approximately 13 million children under the age of five are in non-parental child care programs (Laughlin, 2010). Hence, the vast majority of U.S. preschool-aged children have two primary contexts where they are introduced to food: home and child care programs. Guidelines for placing high standards and implementing effective practices for nutrition in early group care settings are needed.

Bridging Research with Practice

The literature has demonstrated that parental food choices, along with food accessibility and mealtime experiences are key factors that determine the quality of a child's nutrition and eating habits. Applying this research to child care programs, this paper systemically and comprehensively targets three primary components that comprise the child's experience with food: 1) the food that is provided, 2) the children's access to food, and 3) the mealtime experience (Tysoe & Wilson, 2010). Each of these three elements will be discussed below, highlighting

the importance of creating best practices for children's mealtime experiences that are rooted in the literature.

1. Food Provided: Planning Guidelines and Nutrition Standards

"Based on menu evaluation, some child-care centers served too little food, the quality of meals served was poor and menus were inadequate in several key vitamins and minerals. Excess fat and limited vegetables were found

on child care menus and in diets of young children eating away from home" (Nicklas, et al., 2001, p. 229). In order to ensure that children are given access to high quality food, school lunch programs must develop healthy menus (see Table 1).

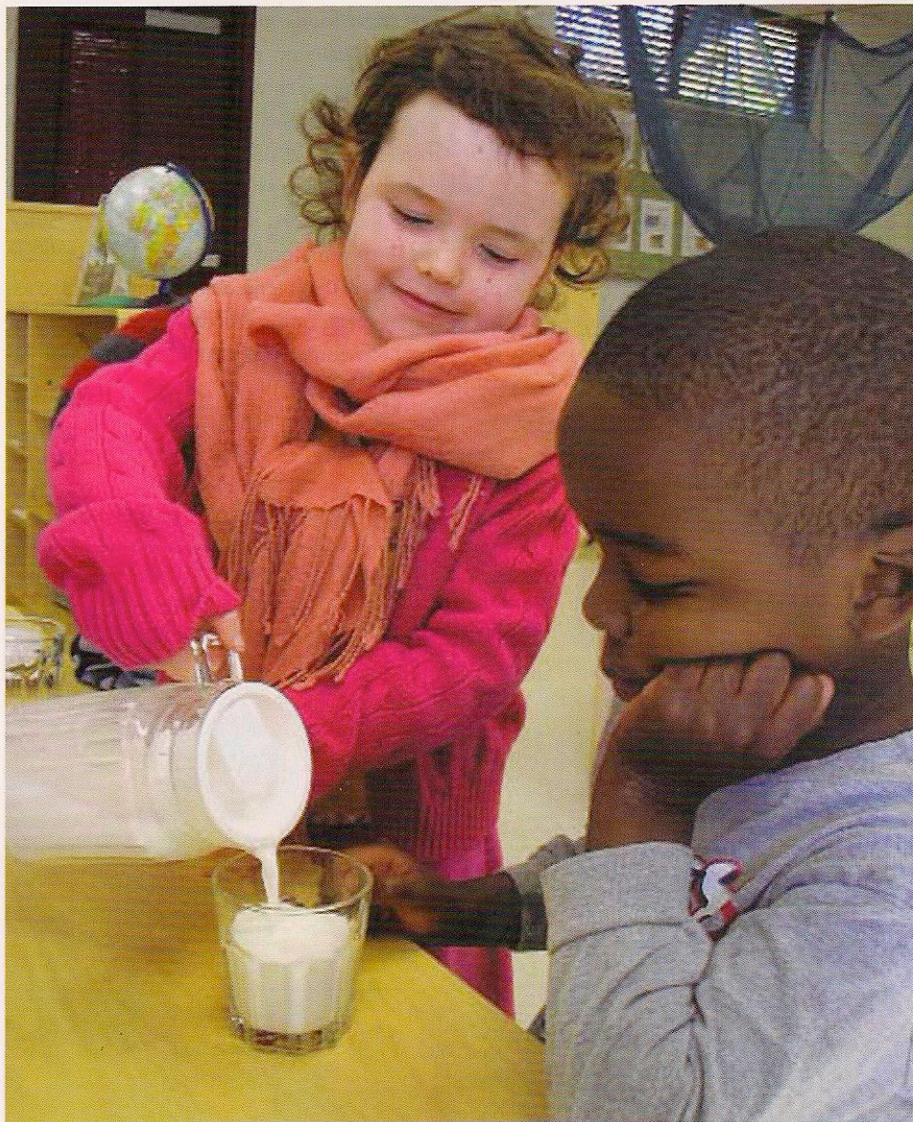
Developing a healthy menu: A healthy menu should contain foods that are: 1) high-fiber foods, including whole-grain foods, vegetables and fruits; 2) low sodium foods, avoiding processed and prepared; 3)

low sugar foods, avoiding high fructose corn syrup; 4) calcium-rich foods, to meet a child's daily calcium requirements; and 5) iron-rich foods, to meet a child's daily requirements for iron (Iannelli, 2008). For families that choose to bring their own lunch, programs should strongly enforce a "no junk food policy." Since, the term "junk food" is highly subjective, it can be helpful to have an objective measure to assist in determining whether or not something might be considered junk food. Junk food in-

Table 1 Sample Menus

Sample Lunch Menu				
Mon	Tue	Wed	Thu	Fri
Chicken Chow Mein w/ Vegetables Apricots	Roasted Chicken Spinach Whole Wheat Pita Apples	Shepherd's Pie Corn Pears	Whole Wheat Penne w/ Bolognese Grilled Vegetables Oranges	Garden Burger Sweet Potato Fries (baked) Honeydew Melon
Rice & Bean Burrito (no cheese) Avocado Halved Grapes	Spinach & Cheese Pizza Apples	Lasagna Steamed Vegetables Oranges	Chicken & Rice Soup Vegetable Mango	Fish Tacos Cabbage Salad Pineapple
Grilled Cheese Sandwich Tomato Soup Bananas	Tandoori Chicken Rice Peas Strawberries	Macaroni & Cheese Crispy Kale Blackberries	Chinese Chicken Salad with Mandarin Oranges	Potato, Chicken & Corn Chowder Blueberries
Spaghetti & Turkey Meatballs Vegetables Grapefruit	Chicken Noodle Soup Beet Salad Nectarines	Vegetable Sushi Rolls Edamame Plums	Grilled Chicken Spanish Rice Bell Peppers Raspberries	Vegetable Soup Tuna Salad Sandwich Watermelon

Sample Snack Menu				
Mon	Tue	Wed	Thu	Fri
AM: Cheese Quesadilla PM: Whole Grain Bagels & Pears	AM: Shredded Wheat & Bananas PM: Jack Cheese & English Muffin	AM: Vegetarian Breakfast Burrito PM: Whole Wheat Pita & Hummus	AM: Bran Cereal & Grapefruit PM: Orzo Salad	AM: French Toast PM: Apple Sauce & Wheat Crackers
AM: Cheerios & Pears PM: Plain Yogurt & Oranges	AM: Banana Pancakes PM: Apple Sauce & Wheat Crackers	AM Oatmeal & Kiwi PM: Hard Boiled Eggs & Wheat Toast	AM: Bran Cereal & Apples PM: Swiss Cheese & Crackers	AM: Vegetarian Breakfast Burrito PM: Cucumbers & Hummus
AM: Shredded Wheat & Bananas PM: Jack Cheese & English Muffin	AM: Blueberry Pancakes PM: Apple Sauce & Crackers	AM: Hard Boiled Eggs & Grapes PM: Whole Wheat Pita & Hummus	AM: Cheerios & Apples PM: Avocados & Whole Wheat Toast	AM: French Toast PM: Plain Yogurt & Grapefruit
AM: Cheese Quesadilla PM: Whole Grain Bagels & Pears	AM: Bran Cereal & Grapefruit PM: Plain Yogurt & Oranges	AM: Vegetarian Breakfast Burrito PM: Cottage Cheese & Wheat Toast	AM: Banana Pancakes PM: Apple Sauce & Crackers	AM: Cheerios & Pears PM: Swiss Cheese & Cucumbers



cludes foods high in salt or any energy-dense (high calorie) food that does not also have some nutritional value such as fiber, vitamins, minerals, or protein. Programs must clearly outline how they define “junk food.” Child care programs can create policies to enforce no “junk food” on their premises. Table 2 is an example of a “no junk food policy” that programs can use to ensure the development of healthy eating habits.

The American Academy of Pediatrics (AAP) (2006) recommends that children six months to six years of age should not drink more than six ounces of fruit juice a day, as fruit juice contains a high concentration of sugar and calories and lacks some of the nutrients and other benefits of whole fruit. Early child care programs should refrain from serving children any form of juice throughout the day, but rather offer children fresh whole fruit instead of juice. Subsequently, young

children should be served hormone and antibiotic-free milk and water at mealtimes and when requested throughout the day.

Developing a diverse menu: In addition to considering the nutritional content of foods, child care programs need to ensure that the food provided is culturally rich and varied, helping to create diverse palates in young children. It is important for the menu to represent the foods that children eat in their homes. In one instance, after adding tofu curry to the lunch menu at one child care center, upon entering the classroom before lunch a child exclaimed “it smells like home”. Not only is this an important association for a child to make for his or her self, but it is also important because it enables her peers to share in this experience with her.

One way to ensure that the menus at a child care program are reflective of the children’s home culture is to ask parents to

participate in the process of sharing their family’s favorite meals with the school. Once school administrators have received this information, they can incorporate these foods into the school menu if they meet the healthy food guidelines of the school. Tofu curry is an example of an item that is not typically found on school lunch menus, as many adults would not feel that it is child friendly.

Table 1 provides other examples of lunch items that have been received well by the children at this child care center that are traditionally not found on children’s menus such as Chinese chicken salad, vegetable sushi, and steamed fish tacos. Repeated exposure (12 to 15 times) to new foods impacts children’s preferences for those foods (Birch, 1992). Despite this, one study discovered that “at one center, the 5-day cycle was the same set of menus used for the past 15 years with little variety in types of foods served” (Nicklas et al., 2001, p. 228). Based on the findings that unfamiliar foods can become acceptable when they are repeatedly tasted, it is recommended that programs expose children to varied foods at mealtimes with the food cycle repeating monthly. With monthly repeated exposure, many new foods that children initially rejected are accepted over time. The fact that early, varied and repeated opportunities to eat novel foods can change initial rejection to acceptance underscores the critical role that child care programs play in selecting an array of foods to offer children.

2. Food Accessibility

Family style dining is a term used to describe the routine of having a meal in the same manner families typically do. A group of children gathers together around the table, sharing a meal, interacting as they pass food to one another. A sense of community, belonging, and competence is discernible as the children, who spend most of their time playing on their own, in pairs, or in small groups come together. This routine of eating transcends its original purpose of meeting a child’s basic needs and into a community event that will in time develop its own rituals and rhythm.

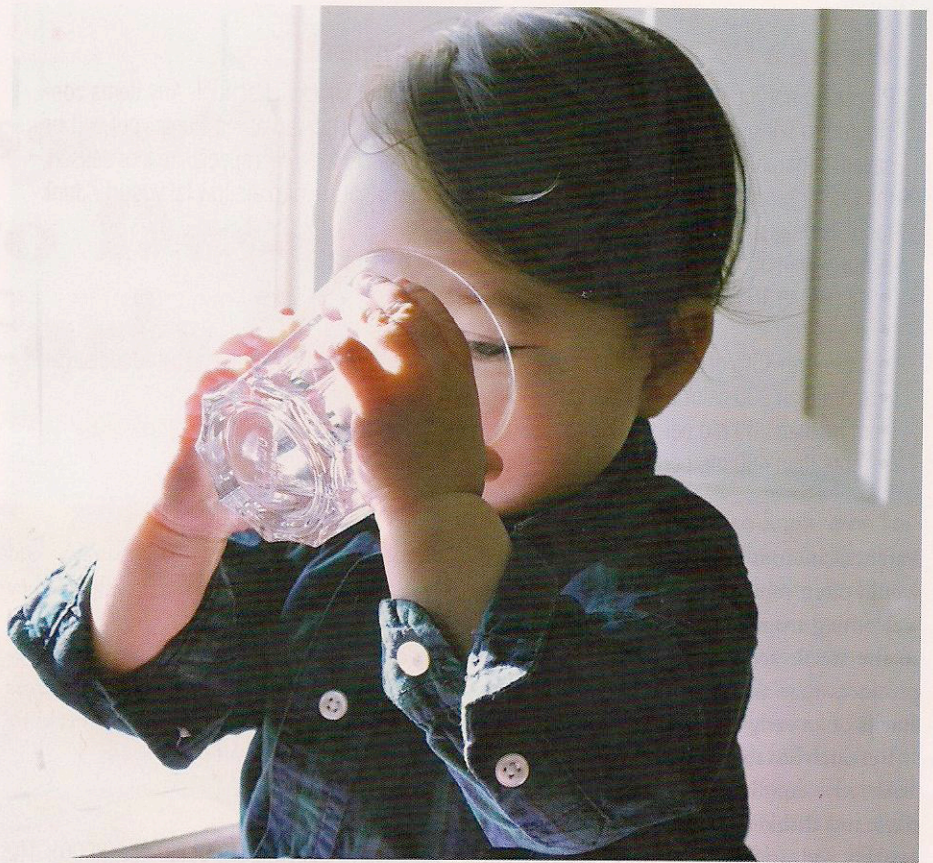
The family dining experience entails so much more than having a child’s basic physical needs met. On each table, bowls of food should be accessible to the children; therefore, unless they have opted to bring their own lunch, the majority of the children are shar-

ing one meal. Children should be given the responsibility of serving themselves from a shared serving bowl, which serves several purposes. First, children can practice their gross and fine motor skills of transferring food from the serving bowl to their plate. Second, “family style meal service assumes children have strong innate control over their energy requirements” (Nicklas et al., 2001, p. 229); children are given the opportunity to know and meet their needs by determining how much of a particular food they will serve themselves. Subsequently, the snack and lunch foods should be available in clear glass serving bowls so that the children can easily see the choices available to them.

Third, as one child serves himself, the others wait for their turn. During these early years, waiting is particularly challenging because children expect immediate gratification. This practice supports the development of perspective taking, consideration, and generosity. Finally, young children are imitators. They look to their peers for ideas on how to respond to certain situations. Children are more likely to try new and unfamiliar foods if they see their peers trying them (Hendy & Raudenbush, 2000). Family style dining acknowledges children’s competencies, encourages emotional connections, and fosters healthy eating habits.

3. The Mealtime Experience

Research has consistently shown that when adults provide a stable and predictable mealtime environment in an engaging conversational setting, children’s linguistic and social-emotional skills are improved, resulting in enhanced social competence for the child (Spegman & Houck, 2005). Subsequently, food should be made available to the children in an appealing, predictable and pleasant manner. Knowing that children are capable of caring for fragile things when given guidance and opportunity, group care programs should offer children meals on porcelain plates or bowls, fluids in glass cups and the use of stainless steel utensils. Tablecloths are used as ornamental coverings with a small vase of flowers serving as the centerpiece of each table. Each of these details goes a long way in helping create a positive and beautiful mealtime experience for children. Moreover, preschoolers are increasingly cognizant of their mealtime environment and, thus, they recognize the social facets of eating and



perceive behavioral cues from others. Caregiver interactions and modeling are integral components in ensuring that a positive, non-coercive social context is associated with the mealtime experiences.

Caregiver modeling: What must be emphasized is that exposure to new foods alone is not sufficient to develop acceptance of the new food. Exposure must involve actually tasting the food. Looking at the food item and smelling it are not sufficient to persuade increased acceptance. Caregivers can help encourage children to taste new foods in various ways. “Early studies suggested that preschool children are more likely to eat foods if they saw an adult model eat the foods. Teacher modeling was effective when the teacher displayed enthusiasm for the food and showed that rewarding consequences came from eating them. Teacher modeling was ineffective when it was presented with non-specific comments of ‘I like to try new foods’” (Nicklas et al., 2001, p. 229). Conversely, at one child care center when a child proclaimed that she did not like vegetable sushi the teacher explicitly explained that she enjoyed the sushi because of the specific vegetables in the sushi. Relating to the teacher, the child realized that she also liked carrots, cucumbers, and avocado when

each are presented separately which encouraged her to taste the sushi. As such, caregivers are encouraged to sit, converse, and eat the same nutritious meals with the children at mealtimes, catching up on the day’s events and modeling healthy eating habits. This time to connect and relate to one another with respect to our shared experiences is an invaluable part of the day and, thus, the curriculum. The caregivers should discuss nutrients in the foods the children eat at snacks and lunch in ways young children can understand. In an effort to build and maintain good nutrition habits, caregivers are encouraged to keep in mind that most children have small appetites, so keep portion sizes to a minimum to avoid waste.

Another way children can make tangible connections to the foods they eat and develop healthy eating habits is through cooking. For example, at one center young toddlers through preschoolers helped caregivers make bread daily for afternoon snack. Children helped participate in mixing various whole grains with fresh fruits or vegetables to create delicious, wholesome snacks for their community. This process builds upon children’s learning by employing all their senses and particularly one that is often left untapped in child care programs, the sense of smell.

We are a No “Junk Food” Environment!

Please do not include “junk food” in your child’s meals or snacks at school. Any items considered to fall under the category of “junk food” will not be served at the Center but will be saved for parents to offer at their discretion. If parents wish to include a special treat or dessert, the Center recommends offering fruit, unsweetened applesauce, or plain low fat yogurt. “Junk food” is defined as foods containing:

- more than 35% of calories from fat (except for low-fat milk),
- more than 10% of calories from saturated fats,
- any trans fat,
- more than 35% of calories from sugar, unless it is made with 100% fruit and no added sugar,
- more than 200 calories per serving for snacks,
- more than 200 mg per serving for sodium (salt) for snacks, and/or
- more than 480 mg per serving for sodium (salt) for entrees (Iannelli, 2008).

Parents, children and visitors of this Center would often comment on the baking bread’s welcoming aroma, which is in stark contrast to the sterile scent of bleach and cleaning products that are often the most poignant smells of an early childhood program.

Research has shown that children, through associative conditioning, tend to form clear likes and dislikes about foods through the explicit and implicit cues they receive from the social contexts in which mealtimes occur (Kleinman, 2004). Food that adults believe are healthy for children tend to be presented in coercive, negative contexts (e.g., “eat your vegetables”), whereas junk foods tend to be presented in positive contexts such as desserts as a part of holidays and celebrations. Children begin to prefer these foods and, thus, begin to have positive associations linked with them. Conversely, should the mealtime social context be a negative one, in which a caregiver applies pressure and forces children to eat particular foods, this will result in developing an aversion to the foods we want children to eat (Birch, 1992). Hence, caregivers should be taught to appreciate the pivotal role that the social context plays in shaping children’s food preferences and ensure that children consume meals in a positive, non-coercive setting.

Conclusion

With increasing numbers of children entering child care, child care programs play a critical role in establishing healthy eating habits for young children. The research driven strategies (e.g., the food provided, food accessibility, and the mealtime experience) presented here provide meaningful and engaging context of enhancing staff training practices and regulating mealtime environments to ensure that child care programs

are creating healthy core eating patterns and mealtime environments for the children they serve. By applying these strategies to nutritional experiences in early childhood programs, caregivers can transform nutritional practices across the country by cultivating healthy mealtime habits one meal at a time.

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