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SCHOOL NUTRITION TRAINING NEEDS REGARDING FOOD SENSITIVITIES AND FOOD TRENDS

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ABSTRACT

Over 50 million Americans have a food allergy to one or more foods (Berdanier, 2017). Approximately 1 in 25 school-aged children are diagnosed with food allergies (Sicherer, Mahr, & The Section on Allergy and Immunology, 2010), while 25% of children may not experience a reaction until later in life (Leo & Clark, 2017). A food sensitivity or intolerance, on the other hand, can be defined as any undesired reaction to a food or food group (Berdanier, 2017). As of now, research regarding school nutrition professionals' knowledge of food sensitivities, food intolerances, and food trends that may affect students' food preferences is not available. Yet, food trends show that some consumers are demanding specialized diets including milk/dairy alternatives, meat alternatives, as well as foods that align with Whole30, and low-FODMAP diets (Brissette, 2018). Because of this demand, there is a need for training school nutrition personnel about food sensitivities as well as new food trends, in addition to food allergy training.

KEYWORDS: Food Sensitivities, Food Intolerances, Fad Diets, School Nutrition Food Trends

BACKGROUND

Food allergy accommodations are a concern in the foodservice industry. The eight most common food allergies are milk, eggs, peanuts, tree nuts, fish, shellfish, soy, and wheat (U.S. Food & Drug Administration [FDA], 2017). The FDA and U.S. Department of Agriculture [USDA] have laws that all ingredients, including potential allergens, be stated on the food label (USDA, 2016). Further, potential contact with any of the eight common allergens must also be listed. However, due to the prevalence of the eight common food allergens on many menus, it is still a challenge for foodservice establishments to help customers avoid potential allergic reactions.

Approximately 1 in 25 children in U.S. schools is diagnosed with a food allergy (Sicherer, Mahr, & The Section on Allergy and Immunology, 2010). A food allergy is defined as a specific, immediate immunological response to a food that may cause itching, hives, swelling, anaphylaxis, and sometimes death (Wolfram, 2017). Food intolerances are based on responses in the digestive system with symptoms such as nausea, vomiting, bloating, stomach pain, and diarrhea with varying reaction times. Food intolerance is harder to diagnose than food allergies as the amount of food and the circumstance in which food is given can vary the result (Wolfram, 2017). Food sensitivities are even harder to diagnose than food intolerances because sensitivity is that of both immune and digestive reactions, and symptoms vary greatly. Because of this, there are currently no diagnostic tests available for diagnosing a food sensitivity (Wolfram, 2017).

Food intolerances can be caused by the absence of a particular enzyme in the body which is responsible for breaking down a specific food during the digestive process. For example, lactose is a milk sugar found in most dairy products. An enzyme called lactase is needed for digestion of this complex sugar into glucose. Those who do not have enough lactase produced in their bodies are considered lactose intolerant, experiencing common symptoms of bloating, diarrhea, abdominal pain, and general malaise because of incomplete digestion (Berdanier, 2017). Lactose intolerance has been found to be more common in cultures in which the consumption of milk is not encouraged. However, the slow introduction to lactose can trigger adaptation by the human body (Berdanier, 2017).

Some theorize that the rise in food intolerances and sensitivities stems from the elimination of certain food triggers in the diet, including the eight common food allergens, gluten-free, and low-FODMAP ((fermentable oligosaccharides, disaccharides, monosaccharides and polyols) food options. Researchers behind the Enquiring About Tolerance (EAT) study found that early introduction of the eight common allergens at 3 months of age, along with breastfeeding, decreased allergy incidence by 21%. (Perkin et al, 2016). Scherf, Koehler, and Wieser (2016) reviewed the research on non-gluten celiac sensitivity and reported that it is characterized by gastrointestinal complaints and more common among females and young to middle-aged adults. A gluten-free diet is consumed to determine whether symptoms improve. Celiac disease (CD), is an autoimmune response to gluten-containing foods such as wheat, rye, and barley (Collins, 2012). The treatment for this disease is a strict life-long gluten free diet. While the reported incidence of CD has not increased significantly, the number of Americans following a gluten-free diet has grown. This is likely due to suggested health benefits of the diet, including weight loss and reduction in gas and/or bloating related to gluten sensitivities (Leonard, Sapone, Catassi, & Fasano, 2017).

Emerging food trends indicate that consumers are demanding specialized foods including milk or dairy alternatives, meat alternatives, and plant-based foods that align with vegetarian, vegan, and Whole30 diets (Brissette, 2018). According to Brissette, low-FODMAP diets which include types of carbohydrates that for a minority of people cause gas, bloating and other digestive issues, are also popular. Potentially problematic foods within this category include apples, dairy

products, beans, wheat, garlic, and onions. As consumers strive to include more plant-based and less meat in their diets, one common practice has been to add chopped mushrooms into ground beef to decrease the amount of meat consumption (Brissette, 2018).

School nutrition directors, managers, and staff are all involved in monitoring foods and the dining environment for students with diagnosed food allergies. Actions to safeguard the health of these students include maintaining ingredient information for menu items and providing accommodations as directed by the health care provider. Accommodations may include provision of alternative food item (such as sunflower seed butter rather than peanut butter), a fresh start for all food prepared, as well as review of any requested food labels (Sauer, Patten, Roberts & Schartz, 2018).

A recent nationwide survey of school nutrition directors (n=480) found that 39% of schools have allergen-safe zones; 15.6% have a specific ban on food items in a building; 14.2% have restrictions on food included in reimbursable meals; and 8.8% have areas on campus where food is completely restricted (Sauer et al., 2018). Only 51.3% of survey respondents reported that school nutrition staff are trained in general food handling to reduce customers' exposure to allergens. Other training topics included an overview of food allergies and terms (36.7%); life-threatening food allergies (31.1%); signs and symptoms of an allergic reaction (31.1%); and the district/school emergency allergic reaction policy (27.4%) (Sauer et al, 2018). The Food Code (FDA, 2017) requires foodservice employees be trained about the effect of the eight most common food allergens on food preparation and service and procedures to avoid cross-contact.

There is currently no research regarding school nutrition professionals' knowledge of food intolerances, food sensitivities, and food trends that may affect students' health or food preferences.

RECOMMENDATIONS

Due to the rise in the number of people with food allergens, food intolerances, and food sensitivities, coupled with emerging food trends, it behooves those in foodservice to meet customer needs by expanding menu offerings. Unfortunately, it may be a burden for students in some schools to ask whether certain foods are gluten-free or contain other ingredients that may impact their intolerance or sensitivity. While schools currently maintain records of the recipes and ingredients used in preparation of menu items available, availability of the information to students in a manner that is easy to obtain or access varies. Schools could improve their communications with labels or icons indicating whether an item is gluten-free; nutrition facts for recipes posted alongside the dish; electronic monitors in the cafeteria listing recipes and ingredients; or through making information available on social media or the school nutrition program's websites.

Students and parents interested in nutrition facts, or students following a specific diet, may ask questions about the food item served. It is important for school nutrition professionals to know characteristics of the menu items being served in order to correctly answer any questions. This information is critical with regard to food allergies. Although food intolerances and sensitivities may not lead to life-threatening consequences, foodservice professionals should be trained how to recognize them, as well as be taught general nutrition concepts such as which foods contain gluten.

Cobe (2019) describes training by restaurant chains to their employees about food sensitivities and food trends, using strategies such as chef competitions to create diet-friendly recipes, quizzes on recipe ingredients for servers, and using the recipe knowledge of staff to guide customers in

their choices. Using these techniques to increase staff knowledge, staff can better accommodate recipe requests and provide a safer environment for customers. Introducing these techniques in school foodservice will create a safer and more welcoming environment for students and might lead to greater participation in school nutrition programs.

Food trends reveal an increasing demand for more plant-based and specialized diets including gluten-free diets, Whole30, low-FODMAP, and more. In the Sauer et al. (2018) survey, 24.2% of the respondents reported food accommodations in the "other" category including food dye, strawberry, corn, pineapple, gluten, and/or citrus. While schools have focused on training about food allergy accommodations, it is not clear how food intolerances are handled in districts across the country.

Staff with more knowledge about food sensitivities can better assist students with them. Menu planners can consider food trends as one strategy to increase student participation. Inclusion of more plant-based menu options could indirectly increase consumption of vegetables by students, a component of lunches frequently wasted. Labeling ingredients used in menu items could also lead to increased participation, because those who have intolerance or sensitivities know what they can and cannot eat.

With ongoing challenges of participation in school breakfast and lunch meals, attention by school nutrition directors and personnel to food intolerances, sensitivities, and emerging food trends may benefit the program. The addition of alternative menu items and inclusion of training about food intolerances and sensitivities, along with allergens, could lead to better participation and student health. Research about the impact of training for school nutrition personnel about meeting the needs of students with food intolerances, sensitivities, and food trends is needed.

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