

Food Insecurity and Obesity¹

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Introduction

Food insecurity, or inconsistent access to food due to limited financial and/or other resources (Bickel, Nord, Price, Hamilton, & Cook, 2000), has been linked to many negative health outcomes, including obesity. To better address the negative consequences of both food insecurity and obesity, it is important to increase our knowledge surrounding food insecurity and its prevalence, understand the relationship between food insecurity and obesity, and be aware of the resources currently available for families experiencing food insecurity.

About Food Insecurity

Levels of household food insecurity were first measured in 1995 when the US Census Bureau implemented the first Food Security Supplement to its Current Population Survey (CPS) (Bickel et al., 2000). The conditions, experiences, and behavior patterns surrounding the food security issue led the United States Department of Agriculture (USDA) to identify the following four levels of food security to describe the range within the population: high, marginal, low, and very low. People with high food security and marginal food security are considered food-secure. High food security households have constant access to adequate food. Marginal food security denotes existence of occasional anxiety about adequate food access without a reduction in diet quality. People with low food security and very low food security are considered food-insecure. Low food security, previously *food insecurity without hunger*, is categorized by

a decrease in diet quality or preference without a change in food consumption. Very low food security, previously described as *food insecurity with hunger*, interrupts normal eating patterns and results in hunger.

In 2015, one in 13 US households, or 31.3 million adults and 6.4 million children, had low food security, while approximately one in 20 U.S. households, or 10.9 million adults and 541,000 children, had very low food security (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016). According to data from Feeding America, approximately 3,315,500 Florida residents are considered food-insecure. Overall, Florida is ranked 10th in food insecurity and 8th in child food insecurity. Of Florida's 67 counties, 53 have food insecurity rates that exceed 15%. The top five food-insecure counties are Gadsden (22.5%), Leon (21%), Hamilton (20.5%), Alachua (19.8%), and Putnam (19.7%) (Feeding America, 2015).

How are food insecurity and obesity related?

Obesity is a complex disease that is influenced by a variety of factors, including dietary behaviors, such as the ability to make healthier food choices in order to maintain energy balance and avoid weight gain (Centers for Disease Control and Prevention, 2015). The link between food insecurity and obesity is best explained as one mediated by socioeconomic variables such as income and education (Fongillo & Bernal, 2014). Because food insecurity is defined as inconsistent food access due to limited financial resources (Pruitt

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et al., 2016), it is no surprise that many food-insecure households are found in low-income communities that may not have grocery stores or farmers' markets that provide access to healthier food options than those found at corner or convenience stores. These environmental limitations as well as limited financial resources often result in reduced access to healthy food options and cycles of food excess and deprivation that can both contribute to obesity.

Reduced Access to Healthy Food Options

Research shows that those who have access to fresh foods tend to have healthier diets and therefore are at lower risk for obesity (Food Research & Action Center, 2015). Many food-insecure families live in food deserts, which are defined by the USDA as limited access to inexpensive healthy foods as a result of living far from a supermarket or large grocery store and having limited means of transportation (Centers for Disease Control and Prevention, 2013). As a result, families often only have access to small convenience stores when shopping for food. These stores have limited affordable fresh produce and other healthy options available. Instead, they offer less expensive but often unhealthy food options, such as chips, sodas, and other shelf-stable, high-calorie foods. If a family depends on public transportation to make shopping trips to a grocery store, purchases will be limited by how much can be carried home. Also, the cost of taking the bus reduces the amount the family can spend at the store. Therefore, living in a food desert and being food insecure are associated with an increased intake of foods that are higher in fat, carbohydrates, and calories because those foods tend to cost less and are less perishable (Dinour, Bergen, & Yeh, 2007; Tanumihardjo et al., 2007) as well as more accessible. As food insecurity becomes more severe, intake of nutrient-dense foods declines further (Dinour, Bergen, & Yeh, 2007), contributing to poor weight management and obesity.



Figure 1. A basket filled with fruits and vegetables.
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Cycle of Food Excess and Deprivation

Financial instability can also contribute to food insecurity and obesity through periods of excess and deficits. Cyclical food restriction refers to the idea that individuals or families may overeat when funds are available, restrict intake when those resources are used up, then overeat once more when funds are restored. The disordered eating patterns of cyclical food restriction may result in metabolic changes that increase fat stores (Food Research & Action Center, 2015) and body weight (Dinour, Bergen, & Yeh, 2007). Even when funds are available, it is still a challenge for many food-insecure families to find affordable, nutritious food for the aforementioned reasons.

Why does it matter?

Chronic health complications resulting from obesity include, but are not limited to, high cholesterol, heart disease, high blood pressure, type 2 diabetes, and stroke. Negative consequences such as increased morbidity and mortality and reduced quality of life can be prevented or at least reduced with the appropriate knowledge and resources.

What can we do to help?

There are a variety of programs that provide resources and interventions to help address food insecurity. Approximately one out of four Americans participates in at least one of the USDA's nutrition assistance programs (USDA ERS, 2016).

Supplemental Nutrition Assistance Program (SNAP)

Formerly known as The Food Stamp Program, SNAP has provided nutrition assistance to millions of eligible individuals and families to reduce hunger for the past 70 years. This is the largest program of domestic food and nutrition assistance for low-income Americans (USDA FNS, 2016). As a federally entitled program under the USDA, SNAP provides benefits to eligible individuals based on the analysis of "family size, citizenship status, household income, and certain expenses." SNAP resources are distributed as Electronic Benefit Transfer cards and assist in stretching food budgets to accommodate healthy food. Grocery stores and other markets accept SNAP benefits (Project Bread, 2016).

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

The WIC program provides supplemental foods, health care referrals, and nutrition education to eligible participants. Eligibility criteria are as follows: “low-income pregnant, breastfeeding, and non-breastfeeding postpartum women; infants in low-income families; children in low-income families who are younger than 5 years old and found to be at nutritional risk” (USDA ERS, 2016). The USDA’s Food and Nutrition Service administers WIC in every state where Congress authorizes a certain level of annual funding for program operations. In 2015, WIC served more than half of all the infants born in the US (Coleman-Jensen et al., 2016). This program also includes resources for breastfeeding support, nutrition education, and food packages to promote wholesome diets and healthy lifestyles for both mothers and children in low-income families.

Child Nutrition Programs

Child nutrition programs make up about 25% of the USDA’s nutritional assistance safety net. Such programs include the National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program, Summer Food Service Program, Fresh Fruit and Vegetable Program, and After-School Snacks and Suppers (USDA ERS, 2016). Free or reduced price meals are available to eligible, low-income students as part of the National School Breakfast and Lunch Programs (Coleman-Jensen et al., 2016). All of the USDA’s domestic food assistance programs prioritize serving the nutritional needs of their participants.

UF/IFAS Extension

Extension is “a partnership between state, federal, and county government to provide scientific knowledge and expertise to the public.” The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Extension includes thousands of collaborators from different professions, working together to develop and deliver knowledge in efforts to both maintain and improve quality of life (UF/IFAS Extension, 2016). UF/IFAS Extension offers a free Family Nutrition Program (FNP) to SNAP beneficiaries. The FNP implements SNAP-Ed nutrition education to teach participants how to shop efficiently, eat healthier, and become more physically active. This program aims to reduce the risk of obesity and subsequent disease development (UF/IFAS Extension, 2015).

Summary

Food insecurity is prevalent across the US and often coexists with obesity. It is important that the coexistence of food insecurity and obesity is well understood so that community outreach programs and interventions can continue to be implemented in order to improve food security by increasing access to affordable, healthy foods and promoting good health nationwide.

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