Gender Disparities in the Food Insecurity—Overweight and Food Insecurity—Obesity Paradox among Low-Income Older Adults

Daphne C. Hernandez, PhD, MSEd; Layton Reesor; Rosenda Murillo, PhD

ABSTRACT

Background Obesity and obesity-related comorbidities are increasing among older adults. Food insecurity is a nutrition-related factor that coexists with obesity among low-income individuals. The majority of the research on the food insecurity—obesity paradox has been conducted on low-income mothers and children, with research lacking on large diverse samples of older adults.

Objective The purpose of this study was to assess gender disparities in the association between food insecurity and overweight and obesity among low-income older adults.

Study design Cross-sectional 2011 and 2012 National Health Interview Survey data were used. Food insecurity status was determined by ≥ 3 affirmative responses on the 10-item US Department of Agriculture Food Security Scale (FSS). Body mass index (BMI) was calculated as outlined by the Centers for Disease Control and Prevention based on self-reported height and weight.

Participants/settings Adults included were low-income (≤ 1.99 federal poverty level [FPL]), older (aged ≥ 60 years), with a normal BMI (18.5) or greater who had complete data on FSS, BMI, and the following covariates: age, race or ethnicity, marital status, income, nativity status, physical activity, poor health status, health insurance coverage, problems paying medical bills or for medicine, and region of residency (N=5,506).

Statistical analyses performed Multivariate logistic regression models were stratified by gender to estimate the association between food insecurity and higher weight status. All models included covariates.

Results In covariate-adjusted models, compared with low-income, food secure men, low-income, food-insecure men had 42% and 41% lower odds of being overweight and overweight or obese, respectively. Despite the high prevalence rate of obesity among low-income, food-insecure women, food insecurity was not significantly related to overweight, obesity, or overweight or obesity for older adult women in adjusted models.

Conclusions Food insecurity—overweight and —obesity paradox appears not to be present in older men. However, food insecurity and obesity coexist among low-income, older women.

J Acad Nutr Diet. 2017;117:1087-1096.

ALTHOUGH A SIGNIFICANT AMOUNT OF POLICY attention has been placed on childhood obesity, obesity is highly prevalent among other vulnerable populations such as older adults. By 2030, older adults will make up approximately 25% of the population (ie, 92 million US adults).[1] Older adults with obesity are at increased risk of activities of daily living disability,[2] breast cancer,[3] type 2 diabetes,[4] and various other cardiovascular risk factors.[5] Currently, 35% of all older adults (aged ≥ 60 years) are living with obesity.[6] A closer look at the obesity prevalence by gender in this population indicates a disparity exists. Among women aged 60 years and older, obesity has increased from 31.5% in 2003-2004 to 38.1% in 2011-2012, whereas an increasing trend was not observed among men.[6] With individuals living longer, the number of aging adults with obesity will likely increase, even without an increase in obesity prevalence.[7] The rise in obesity and obesity-related comorbidities among older adults is a public health concern. This will place an increased demand on health care, specifically in the areas of hospital services and prescription drugs, and consequently increase Medicare expenditures.[8]

Although some consider the high rates of obesity among individuals who lack access to food to be a paradox,[9-13] a nutrition-related factor that coexists with obesity is food insecurity. Food insecurity is the lack of availability or access

Table 1. Characteristics of participants by gender among US low-income adults aged 60 years and older, National Health Interview Survey, 2011 and 2012

Variable	Analytic sample (n=5,506)	Women (n=3,519)	Men (n=1,987)
Dependent variable			
	←———————mean±standard deviation———————→		
Body mass index[a]	28.31±0.10	28.50±0.15	28.00±0.14
	←———————%———————→		
Obese	32	34	29
Overweight	36	33	41
Normal weight	32	33	30
Independent variables			
Food security status			
Food secure ($\leq$2 items)	81	81	82
Food insecure ($\geq$3 items)	19	19	18
Gender			
Male	38	—	100
Female	62	100	—
Covariates			
	←———————mean±standard deviation———————→		
Age (y)	71.57±0.15	72.22±0.17	70.53±0.24
	←———————%———————→		
Race or ethnicity			
White	65	65	65
Black	14	15	14
Hispanic	15	15	15
Other	6	6	6
Marital status			
Married/cohabitating	41	32	57
Single/divorced/separated/widowed	59	68	43
Household income based on federal poverty level			
0.00-0.99	31	33	29
1.00-1.99	69	67	71
Nativity status			
Native born	81	81	80
Foreign born	19	19	20
Physical activity			
Inactive[b]	56	58	54
Insufficiently active[c]	19	20	17
Sufficiently active[d]	25	22	30
	←———————mean±standard deviation———————→		
Poor health status[e]	3.11±0.02	3.09±0.02	3.13±0.03