Commentary

Obesity in Low-Income Communities: Prevalence, Effects, a Place to Begin

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Today's most pressing health and nutrition issue in the United States is obesity. Like so many health-related crises, the rates of obesity did not increase overnight or even over a few years. Quietly, the rates have been creeping up for decades (1)—a side effect of the ever-increasing standard of living in this country. Over 65% of adults are now overweight or obese (2). Pediatric overweight has tripled in the past 30 years in the United States: an estimated 16% of adolescents 12 to 19 years old are overweight (a body mass index ≥95th percentile for age) (2), and there are now more than nine million children over the age of 6 years who are obese (body mass index ≥99th percentile for age). Obesity during adolescence is the best single predictor of adult obesity (3). Unfortunately, 50% to as many as 77% of these obese adolescents will become obese adults, and quality-of-life scores for obese children are significantly lower compared with scores for normal-weight children.

OBESITY IN LOW-INCOME COMMUNITIES

Overweight and obesity disproportionately affect people living in low-income communities (4). It is easier to be overweight if you have a small income or less education or are food insecure. Obesity rates continue to increase in the United States, particularly for minority adults and for low socioeconomic groups (5). At the same time, low-income communities have a disproportionately higher number of racial and ethnic minority populations, especially Hispanic and non-Hispanic black populations. The increases in overweight prevalence for non-Hispanic black and Mexican-American adolescents were about double that of the increase for all adolescents (3).

The obesity-related cost to the US economy is more than $100 billion per year (6), and although some consumers think obesity is strictly a cosmetic problem, scientists accept that the rapid increase in rates of overweight and obesity is associated with an increase in a variety of chronic diseases (7,8). For example, 60% of overweight children age 5 to 10 years already have one cardiovascular disease risk factor, such as elevated blood pressure (9). Given that the prevalence of both obesity (4) and type 2 diabetes (7) is greater among adults and children of low socioeconomic status, there is an urgent need to understand this obesity–socioeconomic status gradient.

CAUSES OF OBESITY

According to Baranowski and colleagues, researchers are not certain whether the causes of obesity are influenced more by diet or physical activity (10). Potentially contributing to increased obesity rates among adults and children are increased intakes of dietary fat (11) and sweetened beverages (12,13), larger portion sizes (14), more fast-food restaurant visits (15), increased snacking (16), and low intakes of fruits and vegetables (17). Also potentially contributing to increased obesity rates are a decline in physical activity at home, work, and school (18) and an increase in television/video time (19). Many adults and children in the United States are sedentary (20). Although difficult to measure, it is estimated that more than half of adults do not meet recommended levels of moderate physical activity.

The recent increases in rates of obesity cannot be explained by changes in the gene pool given its relative stability during the last 40 years. Franks and colleagues found that the familial resemblance in physical activity in a sample of children is explained predominantly by shared environmental factors and not by genetic variability (21). This means that the recent increase in obesity rates is not genetically driven, and we, as a nation with political will, can reverse it via environmental and educational interventions.

CAUSES OF OBESITY IN LOW-INCOME COMMUNITIES

What is different about the people living in these low-income communities or about the communities themselves that is contributing to the higher rates of obesity? With regard to diet, three potential differences come to mind. Drewnowski and Rolls hypothesize that the difference is mainly attributable to higher–energy-dense foods eaten by low-income consumers (22). Second, compared with middle-income communities, food insecurity plagues many low-income communities, and food insecurity has been shown to be positively associated with overweight among women (23). Third, the majority of food stamp recipients live in low-income communities. Preliminary research has found a positive relationship between women's Food Stamp Program participation and their body weight (23,24).

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	Food Stamp Program	
	Current	**Proposed redesign**
Nutrition focus	Increased calories	Improved diet quality. Support US Dietary Guidelines (fruit, vegetables, foods low in saturated fat, high fiber foods).
Allowable foods	All food items sold in markets/food outlets participating in the Food Stamp Program. No restrictions. Examples: energy-dense low-nutrient foods (eg, potato chips, candy, donuts).	The emphasis is on fruit, vegetables, low-fat dairy products, high-fiber (low-sugar) cereals, and whole grain products—foods emphasized in the US Dietary Guidelines.
Allowable beverages	All nonalcoholic beverages including soft drinks, fruit punch, and other sweetened beverages.	Only those beverages meeting a predetermined nutrition standard (eg, nonfat, 1%, and 2% milk; 100% orange juice).
Food/beverages excluded	Alcohol	Energy-dense (high-fat and/or high-sugar) foods/ beverages not meeting the US Dietary Guidelines (eg, soft drinks, cookies, cakes, french fries).
Food/beverage list determined by	Congress and lobbyists for food industry	Scientific panel of dietetics professionals, physicians, and public health researchers.
Goal	Sufficient calories	Meeting the US Dietary Guidelines with improved health and reduced risk for obesity.

Figure. Comparison of characteristics of the existing Food Stamp Program and a proposed redesign.

$20 BILLION FOOD INTERVENTION—A PLACE TO BEGIN

Finkelstein and colleagues discuss the pros and cons of selected environmental interventions to promote healthful eating (25). These interventions, which include elimination of soft drink vending machines in schools, regulating food advertising to children, and mandated nutrition labeling in restaurants, hold promise for producing small changes in dietary behaviors. However, this author suggests that the intervention with the greatest potential for an impact in low-income communities is that of the Food Stamp Program. As a primary prevention environmental food intervention, a redesigned Food Stamp Program could have a widespread impact on the health of food stamp recipients in low-income communities.

When the Food Stamp Program was first established during the Depression as a pilot project, its primary purpose was to stabilize agricultural prices by stimulating consumption of surplus farm commodities. This primary purpose worked in tandem with the secondary purpose of alleviating hunger by providing additional calories to recipients (26). Today, more than 60 years later, the Food Stamp Program is a $20 billion food intervention with a major presence in low-income communities. The program benefits low-income adults and children as well as the food industry. Compared with 60 years ago, the United States has an ever-expanding and inexpensive food supply, and food stamp recipients' health and nutritional needs have changed. Today, the Food Stamp Program could be a strategy for improving recipients' diet quality with fewer total calories. Instead of a food intervention targeting food stamp recipients and benefiting the food processing industry, this author's recommendation for impacting obesity in low-income communities is a redesign of the existing Food Stamp Program to a health and nutrition intervention (Figure). One might wonder why the US government (ie, the taxpayer) is subsidizing/supporting potato chips and soda pop via the Food Stamp Program when the Department of Health and Human Services recommends that overweight Americans eat little or none of these products. Given these secular changes in the US food supply over the last 60 years, changes to the Food Stamp Program are appropriate. Congress and the US Department of Agriculture should take the lead in its redesign. If these proposed changes to the Food Stamp Program cannot be made within the US Department of Agriculture given the political environment promoting the status quo, then Congress should consider assigning the redesign of the Food Stamp Program to another department.

Certainly food stamp recipients could continue to purchase energy-dense low-nutrient food products. However, recipients would not be using food stamp dollars to do so. The food industry would clamor to meet the criteria established for a new food inclusion list (Figure) without any legislative mandate for them to do so. Why? It would be in their best financial interest. The $20 billion in food stamps spent annually at retail food outlets would be diverted from the purchase of primarily low-nutrient, high–energy-dense food products to primarily high-nutrient, low–energy-dense foods. A recipient could use food stamps to buy an orange, but not orange punch; 1% milk, but not cream or ice cream; whole-wheat bread, but not doughnuts. The food industry would shift its research

dollars to the development of more low-cost, palatable food products meeting the criteria for the food inclusion list. Producers of fruits and vegetables would experience an increase in demand. Markets in low-income communities would change the nutritional quality of merchandise over time; they would feature and sell more products on the inclusion list and fewer products not listed.

Dissenters would argue that a Food Stamp Program conversion to a health program is another form of paternalism (27) and would be dictating what people are allowed to eat. I would argue that is not the case. No Food Stamp Program recipient would be forced to purchase or eat any specific food. Instead, recipients using food stamps would purchase foods from the food inclusion list, similar to recipients using coupons from the Special Supplemental Nutrition Program for Women, Infants, and Children. Recipients would have total control over other food purchases. Food stamps would go for foods supporting the US Dietary Guidelines. The shift in program emphasis from calories to diet quality could be gradual, beginning with pilot projects in a few communities.

The recent increase in obesity rates is not genetically driven, and we, as a nation with political will, can reverse it via environmental and educational interventions.

Generally, environmental changes involve county or city governments or school governing bodies. An advantage of this action plan is that the Food Stamp Program is under the control of one governing body—Congress. Theoretically, this change should be easier to coordinate.

Supporting the Food Stamp Program is Food Stamp Nutrition Education, a popular optional primary prevention intervention for food stamp recipients, with expenditures of $199 million in fiscal year 2002 for 48 states. The funding for Food Stamp Nutrition Education is 1% of the total annual Food Stamp Program budget. Similar to Food Stamp Nutrition Education is the Expanded Food and Nutrition Education Program, targeting low-income consumers, with a smaller budget of $62 million. The Expanded Food and Nutrition Education Program and Food Stamp Nutrition Education are the only two US Department of Agriculture programs devoted to nutrition education for families in low-income communities.

The desired outcome of any single environmental or educational intervention may be small or statistically nonsignificant. The interplay and potential synergism of small changes from multiple interventions may be our answer for reversing this obesity trend in low-income communities and elsewhere. The total effect of these small changes together may be sufficient and/or may operate synergistically to prevent weight gain among Americans.

Although we have a call to action by the US Surgeon General, we currently have a public health epidemic with no clearly defined course of action in operation to reverse this upward trend in obesity. What action can we support now? First, shift the emphasis of the Food Stamp Program from caloric intake to diet quality. Second, increase the number of recipients participating in the education component of the Food Stamp Program.

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