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How Neighborhood Environments Contribute to Obesity

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“We don’t have the choices that other communities have. It’s like ... fried chicken, fried fish, fried something. It’s not really a variety of anything in this neighborhood and I wish that it was, like when you go up North [north side of the city] you have so many varieties ... like food that you can choose from and we should have that same thing.”—Carlotta, resident of the Greater Englewood area, Chicago

Until recently, researchers have focused most of their attention on psychosocial factors that contribute to obesity and related behaviors, such as diet and physical activity.^{1, 2} However, there is increasing recognition of the important role that environmental factors play in these behaviors.

Between 1980 and 2000, the age-adjusted prevalence of obesity doubled, rising to 31% of U.S. adults, ages 20 to 74.³ Since then, the prevalence rate has continued to rise.⁴ Obesity is a major health concern among African Americans; the prevalence of obesity in African American women exceeds rates for all other racial, ethnic, and gender groups (for example, 54% of African American women are obese, compared with 30% of non-Hispanic white women).⁴ Nurses, too, find excess weight gain a common health challenge.^{5, 6}

Nurses who work in both clinical and community settings are often responsible for educating clients on the benefits of better diet and increased physical activity in the prevention and treatment of obesity. But education alone rarely produces the desired results. Behavior change may be particularly challenging for those who live in low-income and minority neighborhoods where the resources needed to maintain healthy lifestyles are limited and health risks are widespread.^{7–10}

Consequently, we have focused our research on how urban neighborhood environments may contribute to racial and ethnic disparities in obesity prevalence among women. This article describes studies conducted by an interdisciplinary team of researchers (including a nurse researcher, first author SNZ) to understand how environmental factors, including the availability of different kinds of food, influenced the diet of African Americans living in several Chicago and Detroit neighborhoods. (We use a term often seen in the literature, *neighborhood food environment*, to refer to a group of factors including the types of retail food outlets and the availability, quality, and price of different kinds of foods, such as prepared foods, fresh produce, and other groceries, in a given geographical area.) This research entailed working in community-academic partnerships composed of academic researchers, health service

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providers, and members of local community organizations.^{11, 12} Our long-term goal is to create urban environments that support healthy eating.

ENVIRONMENTAL DISPARITIES

A growing body of research suggests that healthful foods are scarce and unhealthful foods are ubiquitous in low-income and African American neighborhoods. Studies show that supermarkets have the widest variety and lowest prices of high-quality healthful foods; their presence or absence in a given area can be taken as a measure of the relative availability of healthful food.^{13–15}

In the lowest-income neighborhoods in metropolitan Detroit, we found that supermarkets were more than a mile further away from predominantly African Americans neighborhoods as compared with predominately white neighborhoods.¹⁶ We also examined four kinds of neighborhoods in the Detroit area—predominantly African American low- and middle-income neighborhoods and racially mixed low- and middle-income neighborhoods—and found that, even after accounting for different types of stores in each neighborhood, the low-income African American neighborhood had significantly poorer quality fresh produce.¹⁷ The stark reality for many low-income minority residents was summed up by a participant in a focus group conducted by Kieffer and colleagues: “You’ve got to go out in the suburbs now to get some decent food. ... By the time you get to that store and get some fresh fruits and vegetables, you’re going to pass about 30 fast food joints and about 100 liquor stores.”¹⁸

ENVIRONMENT, DIET, AND BODY WEIGHT

Disparities in the availability and accessibility of different kinds of food outlets and the variety, quality, and price of foods for sale at these outlets may have important implications for people’s ability to achieve and maintain a healthy diet and body weight. For example, in an analysis of data from a 2001 survey of African American women living in eastside Detroit, we found that shopping at a supermarket and perceiving that the selection and quality of fresh produce were better at the store where they shopped were associated with greater consumption of fruits and vegetables.¹⁹ (The survey was conducted by the East Side Village Health Worker Partnership, a community–academic partnership.) In another analysis of data from a 2002–2003 survey of African American, Latino, and white adults in Detroit, we found that the availability of a supermarket was associated with an increase (0.69) in the daily servings of fruits and vegetables consumed.²⁰ (The survey was conducted by the Healthy Environments Partnership, an ongoing community–academic partnership.) These findings suggest that the presence of certain types of food outlets and the availability—or lack thereof—of specific kinds of food affect community members’ ability to engage in healthy eating.

EXPANDING OUR UNDERSTANDING

In addition to our own research, a growing body of evidence from other studies suggests that residents of low-income and African American neighborhoods face more environmental barriers to healthy eating, such as fewer supermarkets, more liquor and convenience stores, and less availability of nutritious foods.^{21–25} In order to identify strategies at the level of social policy and city planning that will lead to improvements in the diets and health of urban residents, we are continuing cross-sectional and longitudinal examinations of the relationships among residential neighborhood food environments, individual resources (such as income and car ownership), diet, and body weight. We are also expanding our research program, two aspects of which are described below.

First, little is known about how the broader environment beyond a person’s residential neighborhood influences diet and body weight. For a variety of reasons (such as jobs and social

activities) most people routinely spend a significant amount of time in a geographic area (or *activity space*) that's larger than the neighborhood in which they reside. According to one study, more than 90% of low-income families' activities may occur outside their neighborhood.²⁶ Therefore, we are now studying the eating habits of African American, Latino, and white adults in Detroit while also monitoring their spatial movements, using wrist-mounted global positioning system (GPS) units to record where they spend their time for periods up to a week. We will then characterize the food environment in this broader geographic space. We hope to gain a better understanding of how food environments beyond residential neighborhoods affect food intake.

Second, relatively little is understood about how social and physical aspects of food stores influence food acquisition (for example, shopping frequency, types of stores visited, and distance travelled to and from shopping) among residents of low-income and predominately African American neighborhoods. Yet, this understanding is critical for developing effective programs and advocating city planning policies. To help address this gap, we recently completed in-depth interviews with 30 African American women living in Greater Englewood, a low-income, predominately African American community in Chicago that lacked a supermarket.

Preliminary results suggest that, in addition to the availability and affordability of healthful foods, several aspects of local stores, including poor customer service and treatment, affect where participants shop. For example, in describing customer service at a neighborhood store, one participant said: "They let their employees smoke there while they're bagging you up. They're blowing smoke in your face and sitting around talking and cursing, and I'm like, 'Man, is this a business? I'm trying to buy food, and you're smoking.' I don't like going in there."

Lack of upkeep and poor quality foods at some local stores were frequent complaints. A participant explained: "The shelves are dirty. The items that are on the shelves are dusty. I've had a situation one time when I bought some of that instant oatmeal and there were worms in the package. ... So, I don't buy anything like that out of there. The most I will buy out of there is a pop, a juice, or something I don't have to eat."

Some participants expressed safety concerns, especially about people loitering in front of stores. One participant said: "There is a strip club across the street. ... I just think it is the wrong area."

Overall, our findings to date suggest that increasing the availability and affordability of healthful foods in local stores is not likely, by itself, to be effective in promoting healthy eating; other aspects of the store environment, including customer service, cleanliness, and safety, must also be addressed to make stores more attractive.

NURSING IMPLICATIONS

To promote healthy eating, especially among residents of low-income and African American neighborhoods, it's important that nurses engage in a multilevel approach.

At the individual level, nurses can assess for food access challenges and engage in problem-solving on a case-by-case basis. For example, nurses can encourage clients to purchase produce in season to reduce costs and to purchase frozen or canned fruits and vegetables to minimize spoilage between shopping trips.

At the organizational level, nurses can collaborate with dietitians and other health educators to organize meal planning, cooking classes, and food tastings at local sites (such as churches, clinics, and community-based organizations) that make use of locally grown, nutritious foods.

At the community level, nurses can partner with individuals and groups to expand access to healthful foods in a variety of ways: by supporting farmers' markets and local food production (such as community gardens and urban farms); working with local stores to increase the availability of healthful foods and promote safer and more appealing shopping environments; and finding creative ways to expand transportation options.

Further, nurses can advocate local, state, and national policies that increase access to healthful foods in low-income and minority neighborhoods. Such policy initiatives might include economic subsidies to consumers for the purchase of fresh produce and tax incentives for local stores in underserved areas that carry healthful foods. In addition, nurses can support initiatives on economic development, mixed-income housing, and other policies that encourage economic opportunities and stability in low-income neighborhoods. By engaging in strategies such as these, nurses can have an even greater positive impact on reducing obesity and related disparities and promoting healthy lifestyles.

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