

Food Environment, Diet, and Obesity Among LA County Adults

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Ebony Wardlaw] Could your decision to eat at a fast-food restaurant or stop at the grocery store depend mostly on location? Some researchers believe fast-food restaurants and convenience stores encourage over consumption of unhealthy foods, leading to a higher body mass index, or BMI, while the presence of supermarkets leads to eating more fruits and vegetables and a lower BMI.

I'm Ebony Wardlaw, for CDC's *Preventing Chronic Disease* journal. Today, I'm talking with Nelly Mejia, winner of the journal's 2015 Student Research Paper Contest and PhD candidate at the Pardee RAND Graduate School in Santa Monica, California. She joins us to discuss her winning paper, which examined the relationship between neighborhood food outlet locations and the diet and body mass index of adults living in Los Angeles County, California. Thank you for joining us, Nelly.

[Nelly Mejia] Thank you, Ebony, for inviting me to this podcast.

[Ebony Wardlaw] Nelly, please tell us about your study.

[Nelly Mejia] Yes. This study explores the association between the food environment in a residential neighborhood and the diet and BMI of adults. In other words, it explores how the distance from home to clusters of certain types of food outlets influences the diet and the BMI of people in Los Angeles County.

[Ebony Wardlaw] How did you define “neighborhood food environments” for the purposes of this study?

[Nelly Mejia] I defined the food environment as the food outlet proximity, but there is no consensus about what a neighborhood food environment is, because a neighborhood may vary in size. Some studies define it as a geographic area within an administered unit, such as popular zip codes or a census tract. Here, we use each residence as the center of its own neighborhood and draw circles of different radii. Each of the circles is a neighborhood of a specific size. This allows (us) to define the neighborhood food environment as the number and type of food outlets within a circular area of a specific magnitude around a house, and this is a more realistic measure of the distance between the residences and the food supply. We use radii of five sizes, the smallest is a walking distance—a quarter mile—and the largest is three miles.

[Ebony Wardlaw] How did you measure food consumption?

[Nelly Mejia] We measured it with the weekly consumption of fruits and vegetables, sugar-sweetened beverages, and fast-food that were self-reported by the respondents of the Los Angeles County Health Survey in 2011, which is the data set that we used for the analysis.

[Ebony Wardlaw] What types of food outlets did you examine?

[Nelly Mejia] We included commercial food outlets recorded by the InfoUSA 2009, which is a database of business information. The types of food outlets were classified into five categories: fast-food restaurants, convenience stores, small food stores, mid-size grocery stores, and large supermarkets.

[Ebony Wardlaw] What were your findings?

[Nelly Mejia] Well, we found that adults in Los Angeles County consumed an average of 5.4 sugar-sweetened beverages each week, nearly one per day. They also consumed fast-food on average once per week, and eat 19.6 portions of fruits and vegetables per week—almost three portions a day. Similarly, we found that the average BMI of these adults was 27.5, about 60 percent were overweight, and a quarter were obese. In addition, when conducting the econometric analysis, we found that among the 150 effects tested, only two of them were significant. The first is that the number of fast-food restaurants in a three-mile radius was positively associated with fast-food consumption, and the second is that the number of convenience stores in a quarter-mile radius was negatively associated with obesity. And so, there is no strong evidence that local food environments affect diet or BMI of adults in Los Angeles County.

[Ebony Wardlaw] How is your study different from other studies looking at food environments?

[Nelly Mejia] It is different because it uses a more realistic definition of neighborhood food environment. That also it is not new, its potential has not been exploited. It also uses new data from one of the most urbanized counties in the U.S. Also, this study does not provide evidence to support the hypothesis that the food environment, within walkable distances, affects BMI and diet of adults, as others studies do. Our analysis included the number of grocery stores and supermarkets present in the community, which is suggested as a community measure to prevent obesity, but it does not predict dietary and obesity outcomes.

[Ebony Wardlaw] Do you have any suggestions for future research investigating local food environments?

[Nelly Mejia] Yes. It is important for public health to keep exploring how the food environment influences obesity, and for that it could be good to have information about the food environment of areas around workplaces and schools, instead of just near the residences, as well as including other measures of distance that can be more accurate, such as road networks.

[Ebony Wardlaw] Thank you for joining us, Nelly. You can read her study online at cdc.gov/pcd.

The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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