Differences in neighborhood food environment may contribute to disparities in obesity

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Researchers at Columbia University Mailman School of Public Health examined the association of neighborhood food environments and "walkability" with body mass index (BMI) and obesity in New York City and found that a higher density of BMI-healthy food outlets is associated with a lower BMI and lower prevalence of obesity. BMI-unhealthy food stores and restaurants -- although far more abundant than healthy ones -- were not significantly associated with higher BMI or prevalence of obesity. The findings are published in the March 2009 issue of *Environmental Health Perspectives*.

Almost all of the more than 13,000 adult residents of New York City surveyed lived within a half-mile of an unhealthy food outlet, with an average density of 31 outlets per square kilometer, while 82% lived within a half-mile of a healthy food outlet, with an average density of four outlets per square kilometer. BMI-healthy food outlets are defined as supermarkets and fruit and vegetable markets, and BMI-unhealthy food outlets are fast food restaurants and convenience stores.

The results indicate that a higher density of BMI-healthy food outlets was associated with a lower mean BMI, a lower prevalence of overweight adults, and a lower prevalence of obesity. BMI-unhealthy food stores and restaurants were far more abundant than healthy ones, but the density of these unhealthy food outlets was not significantly associated with BMI or with body size categories. The study indicates that retail outlets providing opportunities for healthier food purchases are associated with lower BMI.

"Given the recent proliferation of initiatives to promote access to supermarkets, farmers markets, and fruit and vegetable stands and to limit fast-food outlets, the study of the causal relationship between the food environment and diet or body size should be a priority for future research," says Andrew Rundle, DrPh, associate professor of Epidemiology at the Mailman School of Public Health, and first author of the study. "I see a role for follow-up studies to examine changes in diet and obesity rates in neighborhoods where new supermarkets or produce stores open."

"Among studies examining the relationship between food environment and body size, this work is among the first to measure the food environment comprehensively," said EHP editor-in-chief Hugh A. Tilson, PhD.

National Health and Nutrition Examination Survey data show that 32% of Americans over the age of 20 are obese. According to the New York City Department of Health and Mental Hygiene statistics, New York City faces a high rate of obesity, and the availability of residential neighborhood resources supporting physical activity and healthy food choices may influence overall obesity rates.

Source: Columbia University's Mailman School of Public Health