

Healthy neighborhoods may be associated with lower diabetes risk

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Individuals living in neighborhoods conducive to physical activity and providing access to healthy foods may have a lower risk of developing type 2 diabetes in a five-year period, according to a report in the October 12 issue of *Archives of Internal Medicine*.

"The worldwide epidemic of [type 2 diabetes](#) mellitus is largely driven by the combined rise in obesity, intake of energy-dense or nutrient-poor foods and physical inactivity," the authors write as background information in the article. Interventions to reduce risk on the individual level—including surgery, medication and behavior change—have had mixed results. Large-scale behavior change may be necessary to reverse the diabetes epidemic, but such a change is difficult to achieve and may be unsustainable if the surrounding environment is not supportive.

Amy H. Auchincloss, Ph.D., M.P.H., of Drexel University School of Public Health, Philadelphia, and colleagues studied 2,285 adults age 45 to 84 who were initially examined between 2000 and 2002. Study participants were from three of the sites in the Multi-Ethnic Study of Atherosclerosis (MESA) for which neighborhood level data were obtained: Baltimore; Forsyth County, N.C.; and New York City/Bronx. [Blood glucose](#) levels were obtained from study participants at baseline and at three follow-up examinations, during which other individual characteristics also were assessed (including diet, [body mass index](#) [BMI] and [physical activity](#) levels).

Measures of neighborhood resources were obtained from a separate

assessment, the Community Survey, in which other residents of the same neighborhoods (defined as the area within a 20-minute walk or a mile from their homes) rated the suitability of their environment for physical activity and access to healthy foods. For instance, they were asked if it was pleasant or easy to walk in their neighborhood, and whether a large, high-quality selection of fruits, vegetables and other low-fat foods was available. Scores for physical activity and healthy foods were calculated for each neighborhood on scales of one to five (with five representing the healthiest areas).

Over a median (midpoint) of five years of follow-up, 233 of the 2,285 participants (10.2 percent) developed diabetes. Average neighborhood scores were 3.68 for physical activity and 3.36 for healthy foods.

"Better neighborhood resources, determined by a combined score for physical activity and healthy foods, were associated with a 38 percent lower incidence of type 2 diabetes," the authors write. This was similar to the reduction in risk observed among individuals whose BMI was five points lower. "The association remained statistically significant after further adjustment for individual dietary factors, physical activity level and body mass index."

The increasing prevalence of type 2 diabetes in the past 30 years makes it urgent to identify environmental features that may mitigate risk, the authors conclude. "Current efforts to foster health-promoting environments include designing and modifying physical environments, such as zoning residential neighborhoods to require safe sidewalks, creating parks and attractive public green spaces and improving public transportation so that residents rely less on their cars; supporting fresh-food farmers' markets in low-income, urban neighborhoods; and assisting stores in those neighborhoods in improving their selection of healthy foods," they write.

"There is unlikely to be a panacea for the obesity epidemic and rising epidemic of type 2 diabetes. However, altering our environments so that healthier behaviors and lifestyles can be easily chosen may be one of the key steps in arresting and reversing these epidemics."

More information: *Arch Intern Med.* 2009;169[18]:1698-1704.

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