Poor neighborhoods more to blame than poor parents for childhood obesity

June 20 2014, by Karene Booker

(Medical Xpress)—By age 2, poor children have gained more weight than those who are better off. But after age 2, neighborhood poverty, not family poverty, puts the pounds on, finds a new study, published in the *Journal of Applied Developmental Psychology* (35:3).

About one-third of America's children are overweight or obese, but rates are highest among poor and minority children. The study identifies for the first time the effects of neighborhood-level poverty, family poverty and ethnicity on children's weight, shedding new light on the origins of adult health disparities, the authors say.

"The effects of neighborhood poverty on children's weight may be just as important as the effects of family poverty," says Cornell's Gary W. Evans, the Elizabeth Lee Vincent Professor of Human Ecology, who co-authored the study with Pamela Klebanov, Princeton University, and Jeanne Brooks-Gunn, Columbia University.

"Children and families are embedded in neighborhoods; poor neighborhoods differ structurally from wealthier neighborhoods, with fewer safe and natural places to play and exercise, fewer supermarkets and more fast food," Evans explains.

For their study, the researchers analyzed demographic factors and changes in body mass index (BMI) from ages 2 to 6 1/2 for nearly 1,000 children born with low birth weight. In typically developing children, BMI increases during the first year, then declines to a low point before

increasing again in what is called adiposity rebound, usually between the ages of 5 and 7. Children who rapidly gain weight early in their first year or who have an early rebound are at risk for obesity throughout life.

Because they tend to gain weight more rapidly over their first two years to "catch up" with normal birth weight infants, low birth weight infants face higher risks for obesity, but being poor, a minority or living in poor neighborhoods adds to their disadvantage, the authors say.

Evans and colleagues found that the low birth weight toddlers from poor families already had higher BMIs than their wealthier counterparts by age 2, at which point the harmful effects of living in an impoverished neighborhood took over. The children in poor and near poor neighborhoods reached adiposity rebound more quickly, and their BMIs increased more rapidly compared to children from non-poor neighborhoods.

The team also found that African-American toddlers displayed an earlier adiposity rebound and greater subsequent BMI increases over time compared to Anglo-American toddlers. Hispanic-American children, on the other hand, had an atypical pattern in which their BMI increased steadily from birth, without exhibiting a decrease and rebound.

"Health disparities emerge early and shape lifelong health," Evans says.

"Interventions need to address both the fundamental risk factors for pediatric obesity, such as poverty, chaotic living conditions and low parental education, as well as the mechanisms that appear to convey these risks, such as restricted access to healthy food, few safe and natural places to play, too much fast food, child food marketing and high levels of chronic stress, he concludes.

The study, "Poverty, ethnicity and risk of obesity among low birth

weight infants," was supported in part by the Stanford Center for Poverty and Inequality.

More information: Pamela Kato Klebanov, Gary W. Evans, Jeanne Brooks-Gunn, "Poverty, ethnicity, and risk of obesity among low birth weight infants," *Journal of Applied Developmental Psychology*, Volume 35, Issue 3, May–June 2014, Pages 245-253, ISSN 0193-3973, dx.doi.org/10.1016/j.appdev.2014.01.003.

Provided by Cornell University