Green neighborhoods may reduce childhood obesity

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Childhood obesity can lead to type 2 diabetes, asthma, hypertension, sleep apnea and emotional distress. Obese children and youth are likely to be obese as adults, experience more cardiovascular disease, high blood pressure and stroke and incur higher healthcare costs. In an article published in the December 2008 issue of the *American Journal of Preventive Medicine,* researchers report that children living in inner city neighborhoods with higher "greenness" experienced lower weight gains compared to those in areas with less green space.

Researchers from the University of Washington, Indiana University-Purdue University and Indiana University School of Medicine followed more than 3800 children, predominantly African-American and poor, aged 3-16 over a two-year period. Using satellite imaging data to measure vegetation coverage, the investigators found that higher greenness was significantly associated with lower body mass index (BMI) changes in those children. In previous studies of adults, residential density tended to predict physical activity levels, with highly urban environments leading to more walking, less driving and lower BMI. The current study did not find this correlation for children.

Children and youth in urban environments may be active in a wider variety of open spaces (e.g., yards, parks, vacant lots) and less likely to constrain activity to streets and sidewalks. Greenness might indicate proximity to parks, playfields or other open spaces that promote either physical activity or increased time spent outdoors in active play.

Writing in the article, Janice F. Bell, PhD, MPH, Assistant Professor in the department of Health Services at the School of Public Health and Community Medicine, University of Washington, Seattle, and co-investigators state, "This study's findings align with previous research linking exposure to green landscapes with health improvements. Among adults, greenness is associated with less stress and lower BMI, improved self-reported health and shorter post-operative recovery periods. Among children and youth, the positive health effects of green landscapes include improved cognitive functioning and reduced attention deficit hyperactivity disorder symptoms. Ideally, future research in this area will be multidisciplinary – involving city planners, architects, geographers, psychologists and public health researchers – and will consider the ways children live and play in urban environments."

In a commentary published in the same issue of the *American Journal of Preventive Medicine,* Nick Wareham, MBBS, PhD, of the Institute of Metabolic Science, Cambridge, England, writes, "Previous research on factors associated with physical activity in children has used mostly cross-sectional designs and few prospective studies have been published. In addition, studies have focused mostly on individual biological or psychological factors, with little emphasis, until recently, on collective determinants such as the physical environment. By focusing on environmental determinants in a longitudinal study in children, the study by Bell et al makes an important contribution to the existing literature."

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