EDITORIAL

Childhood Obesity and the Built Environment

Brian Wolf

To eradicate childhood obesity, a conscious effort among citizens across America is needed to create programs and environments that will produce healthy alternatives for nutrition and physical activity. Currently, overweight children and adolescents are at risk for numerous adverse health outcomes that range from type 2 diabetes to high cholesterol, which are normally associated with adults. In addition, the relationship of the built environment (e.g., man-made physical structures and infrastructure of communities) to childhood obesity has grown exponentially. Careful structuring of built environments, such schools and homes, is necessary to prevent childhood obesity. However, these built environments need to be supported by policies and programs that promote and effect beneficial changes.

Various studies have been conducted in California on the relationship between the built environment and childhood obesity. A large proportion of California children live in low-income, multiethnic, inner-city neighborhoods; reports have concluded that these children are at particularly high risk for obesity. Inner-city residents are forced to depend on convenience stores that tend to have a smaller selection of healthful foods. The increased availability and affordability of energy-dense foods, such as fast food and sugar-sweetened beverages, particularly in low-income neighborhoods has led to the increasing rates of obesity among children. Due to urban sprawl and poor community design, biking and walking in some communities is sometimes impossible, which eventually leads to a decrease in levels of physical activity.

A report was recently conducted on the community-level risk associated with childhood obesity in East Los Angeles, a community with one of the highest rates of childhood obesity in Los Angeles.[1] This report took into consideration the number and location of food establishments near schools, the availability and quality of fresh produce in local grocery stores and the quality and utilization of local parks. Although the parks in East Los Angeles were found to be welcoming and aesthetically pleasing, parks and other recreational facilities were few in number, small in size, and located on the outskirts of the neighborhood. Consequently, these recreational environments are inaccessible without transportation. These findings again highlight the demand for thoughtful community design to guarantee that communities provide safe parks for recreational activities through safe crosswalks, walking paths, and bike paths. In East Los Angeles, there were 62 grocery stores and "only 18% sold fresh fruits and/or vegetables of good quality."[1] Also, only four of the grocery stores that sold fruits and vegetables were within walking distance of a school. These findings recommend the need to increase the accessibility of healthy foods near schools. Public health educational campaigns and home and school interventions are needed to promote healthier life choices. An increase in active surveillance (community-based research) is needed for research that addresses problems of obesity and is encouraged in future research.

The availability of parks and recreational resources are necessary to decrease the levels of childhood obesity. The results from a report on this topic suggest that children with better accessibility to parks and recreational environments are less likely to acquire an increased BMI.2 Of the 12 Southern California cities studied, many children had a lack of access to local parks; more than half of the children had no parks within 500 meters of their homes. While many neighborhoods do not have the space to create new parks, investments in sidewalks and street trees that promote walking, jogging, biking, and informal play appear warranted. The creation of safe sidewalks and the planting of street trees partially substitute for new parklands by, hopefully, increasing physical activity and complementing additional recreational programming.

The ban of sugar-sweetened beverages (SSB) in the school environment appears to be a credible way of reducing the intake of unhealthy beverages. Since California's 2003 ban on SSB sales at public schools, the students in schools implementing a SSB ban consumed significantly less SSB than before the ban was implemented.3 While there has been no significant change in adolescent obesity prevalence, the substantial decline in both childhood obesity and adolescent sugar sweetened beverage consumption has the potential to lead to a decline in obesity prevalence among adolescents in future years.

A study on school nutrition policies offers more information on how to address childhood obesity in the school environment in Los Angeles middle schools.4 Through community-based participatory research, school and community officials are able to come together to institute obesity-related school policies. The collection of information took place when trained observers visited settings to collect data through active surveillance to help make more informed decisions on health promotion efforts. The layout of the cafeteria, food offerings, and conversations with teachers and students helped researchers better understand the school environment. Based on the observers' findings, some policies were not implemented, such as posting of nutritional information for cafeteria food and providing a variety of fruits and vegetables. The reasons for these two policies not being implemented included cafeteria understaffing and costs. Unfortunately, there are insufficient funds to implement all the necessary changes.

Through education and the opportunity to make healthy choices, it is hoped that people will make the right choices culminating in a healthy and productive lifestyle. Encouraging

individuals in a community to participate in healthy lifestyle choices is an important step in reducing childhood obesity. However, further reductions in childhood obesity can only be achieved if there is a continued and sustained effort of parents, teachers, legislators and children to make healthy lifestyle choices. In the home environment, parents need to be more aware of the influences they have on their children. In the school environment, education about healthy eating habits and proper physical activity practices needs to be promoted and strengthened in classrooms, cafeterias, and physical activity spaces. The public health community must continue to raise awareness to stop the shocking increase in childhood obesity. Without a concerted effort to implement these changes, today's obese children will be tomorrow's obese adults.

REFERENCES

1 Kipke, MD et al. "Food and Park Environments: Neighborhood-Level Risks for Childhood Obesity in East Los Angeles." Journal of Adolescent Health 40 (2007) Print.

2 Wolch, J. "Childhood Obesity and Proximity to Urban Parks and Recreational Resources: A Longitudinal Cohort Study." Health & Place (2010) Print.

3 Shi L, and Meijgaard JV. "Substantial Decline in Sugar-Sweetened Beverage Consumption among California's Children and Adolescents." Int J Gen Med 3 (2010) Print.

4 Patel, AI. "School Site Visits for Community-Based Participatory Research on Healthy Eating." Am J Prev Med 37 (2009) Print

Childhood Obesity: A Recurring Theme

For more information about childhood obesity check out the Fall 2010 edition of TuftScope. Read Mark Leiserson's interview with Mayor Curtatone of Somerville and Eriene-Heidi Sidhom's evaluation of Michelle Obama's "Let's Move" campaign. Or check out the Winter 2011 edition and see Awesta Yaqubi's original article, "Childhood Obesity in the U.S."

FDA Approves Non-Surgical Aneurism Treatment

By David Gennert

The FDA has given "Premarket Approval" to the Pipeline Embolism Device, manufactured by ev3 of Menlo Park, California, for the treatment of brain aneurisms without the necessity of open surgery. Aneurisms are bulges that develop in blood vessels due to blood pressure pushing against a weakened portion of a vessel. Aneurisms in the brain are particularly common, with one of the more frequent locations being at the base of the brain in the internal carotid artery, which is the one of the main blood suppliers of the brain. If left untreated, aneurism can bulge enough to impinge upon surrounding brain tissue, causing neurological symptoms, or they can rupture, causing a life-threatening hemorrhage.

The device is a metal mesh tube that is inserted through a blood vessel in a patient's leg into the carotid artery near the site of the aneurism. Once in place, the device is expanded against the neck of the aneurism, which limits blood flow to the aneurism. This lack of blood flow causes blood left in the aneurism to clot and the aneurism to shrink over time, both of which help reduce the risk of a ruptured aneurism. Past methods of treating brain aneurisms mostly included surgical procedures, which had the potential of causing serious complications, such as damaging surrounding brain tissue, disease recurrence, and stroke. According to the clinical studies, 70% of aneurisms treated remained blocked by the device without significant narrowing of the artery at that location after one year following the insertion procedure. The device has been approved in Europe and has been on the market outside the US since July of 2009. According to the parent company of ev3, Covidien, it will become available at existing clinical sites in the US shortly.

REFERENCES

1. Petrochko, Cole. "FDA Okays Aneurysm Device." Medpage Today. 10 April 2011. 15 April 2011. <http://www.medpagetoday.com/PublicHealthPolicy/FDAGeneral/ 25834>

2. Zacks Equity Research. "Covidien's Pipeline Device Cleared." Zacks Investment Research. 7 April 2011. 15 April 2011. <http://www.zacks.com/stock/news/50886/ Covidien%27s+Pipeline+Device+Cleared?adid=>

3. Roberts, Scott. "Device Approved to Treat Brain Aneurysm." Bloomberg Business Week. 14 April 2011. 16 April 2011. <http://www.businessweek.com/lifestyle/ content/healthday/651691.html>