ISSN 1188-6641

The Research File

Information for professionals from the Canadian Fitness and Lifestyle Research Institute

Childhood Obesity: Stemming the Tide

Mark Tremblay has done the numbers and they don't look good. By his calculation, Canadian children are becoming progressively overweight and obese. We're not alone. Our data mirror those from the United States, Europe, China, and a number of developing countries.

Proper physical activity and dietary habits play a significant part in helping children and youth maintain a healthy body weight. This, in turn, has a number of short- and long-term benefits—for healthy growth and development *and* for obesity prevention. Tom Baranowski and colleagues consider these factors in a recent issue of *Preventive Medicine*. Highlights are provided below. But, first, the numbers …

Worrisome Trends in Canada

Mark Tremblay and Douglas Willms, of the University of New Brunswick, tracked body mass index (BMI) trends in Canadian children ages 7 to 13 from 1981 to 1996.

They used as a base the 1981 Canada Fitness Survey, a massive project managed by the Canadian Fitness and Lifestyle Research Institute involving more than 23,000 participants ages 7 and older. Data from the 1988 Campbell Survey on Well-Being in Canada (a follow-up to the Canada Fitness Survey also conducted by the Institute) and the 1996 Canadian National Longitudinal Survey of Children and Youth were used for comparison.

The results are staggering. Since 1981, the average increase—for both sexes at most ages—is nearly 0.1 of a BMI unit *per year*. The prevalence of overweight (defined as >85th percentile on 1981 BMI scores) has increased from 15% in 1981 to over 35% in 1996 for boys. For girls, the corresponding change is from 15% to over 29%. The prevalence of obesity (>95th percentile on BMI) during the same period has risen from 5% to almost 17% in boys and 15% in girls.

Benefits of a Healthy Weight

Why worry about these trends? Baranowski and his colleagues cite a number of reasons to focus on dietary and physical activity behaviours in children and youth … and to strive for positive change. Here are some key issues they identified.

Immediate health and social benefits. A good diet promotes the development and proper functioning of many physiological processes and helps prevent a number of nutrient deficiency diseases. Children who are well fed are better prepared to learn.

Regular physical activity contributes to physical fitness, which, in turn, enables the performance of various personal, school, and other tasks associated with healthy functioning in society. Physical activity is also related to positive mental health and emotional well-being.

Contribution to growth and development. In children, diet has been related to linear growth (an indicator of skeletal growth) and bone mineralization. Physical activity promotes fat-free mass, bone formation and growth, and bone mineralization. Thus, diet and physical activity together have long-term effects on bone health.

Tracking risk factors. Various studies have tracked risk factors for cardiovascular disease from childhood to the early adult years. The strongest evidence is for tracking of adiposity. Results across a number of studies show that 26 to 41% of obese preschool children became obese adults, and 42 to 63% of obese school-age children became obese adults. The relative risk of becoming an obese adult is 2 to 6.5 times higher for obese children than for those in the healthy-weight range.

Prevention Is Key

Interventions targeting high-risk groups and children and youth who are already overweight or obese should be a cornerstone of any "healthy weight" campaign. But stemming the tide of obesity—preventing problems in the first place—will come from raising awareness, creating environments that are conducive to healthy choices, and providing effective physical activity programs.

Baranowski summarizes it nicely, saying, "Each community's leaders and health professionals must decide about how best to meet their constituents' needs, with a particular focus on how to efficiently use available resources."

More Info …

Tremblay, M.S., & Willms, J.D. (2000). Secular trends in the body mass index of Canadian children. *Canadian Medical Association Journal*, 163 (11), 1429–1433 (see also erratum published in 2001, 164 (7), 970).

Baranowski, T., Mendlein, J., Resnicow, K., Frank, E., Weber Cullen, K., & Baranowski, J. (2000). Physical activity and nutrition in children and youth: An overview of obesity prevention. *Preventive Medicine*, 31, S1–S10.

An Ounce of Prevention

Responsibility for reducing childhood obesity rests on many shoulders. For example …

- ***Physicians and public health professionals*** can counsel children to adopt healthy physical activity and dietary habits.
- ***Educational administrators and teachers*** should ensure that all students from K to 12 get a minimum of 150 minutes of quality physical education each week—a noble goal now met by few schools.
- ***Parents*** can provide their children with opportunities for regular physical activity and strive to reduce their time spent on unproductive sedentary activities (TV, computers, etc.).

Information from the Canadian Fitness and Lifestyle Research Institute
Reference No. 01-07