Obesity in Canadian children

Your excellent articles on obesity in Canadian children ignored caloric intake as the major factor in this problem.[1,2] Canadians obviously have a sedentary lifestyle. Like Ross Andersen,[2] we decry the decline in physical education in our school system because early habits form lifelong patterns of behaviour. However, the exercise factor must pale when compared with the massive caloric intake we "enjoy" in Canada. Although regular physical activity is an integral component of a healthy lifestyle, it is much less effective than dietary caloric restriction in helping to maintain a negative energy balance and lose weight. We are not far behind the world-leading Danes in terms of the amount of food we consume (3780 cal/d v. 2921 cal/d).

Consistent with trends in overweight and obesity, most data suggest that energy intake has increased over the past several decades and is a major contributor to the increase in average body weight. Beginning in childhood, we eat more frequently, we eat to the point of saturation and we eat more calorie-dense foods.

A recent study concluded that energy availability increased by 15% between 1970 and 1994, on the basis of per capita energy-availability estimates from the US Department of Agriculture.[3] The study also found that Americans are eating more meals outside the home, relying more heavily on convenience foods and consuming larger portions. When caloric intake is being determined, frequency of eating, the caloric density of the food and the quantity of food eaten must be considered.

Caloric restriction reduces oxidative DNA damage,[4] and overeating may underlie this society's epidemic of cancer.[5] Other pandemic diseases of Western society, such as stroke and heart disease, are also affected by caloric intake. Although exercise and caloric intake both affect health, increasing caloric intake is probably the more serious public health problem.

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Mark Tremblay and Douglas Willms have analyzed data from 3 Canadian surveys and drawn conclusions about secular trends in the relation between body mass index and age.[1] Unfortunately, the samples they used are not random. In order for results to be generalized to the population at large, analyses must take sampling weights into account. The variances estimated from unweighted regression analyses underestimate the variance in the population, and more reliable variances are generally now computed using bootstrap methodology.[2]

These methodologic issues have important implications for the authors' findings. Although their results might provide some information about body mass index in Canadian children, there is no guarantee that they are representative of results for the country as a whole.

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Mark Tremblay and Douglas Willms have reported that the prevalence of overweight increased from 15% in 1981 to 35.4% in 1996 among Canadian boys aged 7–13 years and from 15% to 29.2% among Canadian girls aged 7–13 years.[1] The prevalence of obese children tripled over that period, from 5% in 1981 to 16.6% for boys in 1996 and from 5% in 1981 to 14.6% for girls in 1996.[1] The values reported by the authors are interesting in that they clearly show an increase in overweight and obesity over time; however, it must be kept in mind that overweight and obesity were arbitrarily defined as the 85th and 95th percentiles respectively of the 1981 Canada Fitness Survey sample.

It was recently proposed that definitions of overweight and obesity corresponding to the health-related cut-offs used in adulthood (25 kg/m^2 and 30 kg/m^2 respectively) be developed for children and youth.[2] These cut-offs were recently derived using LMS regression by passing a line through the adult cut-off values at age 18 years for a large international sample.[3] Theoretically, these values may be more comparable to the established adulthood cut-offs than arbitrarily defined percentile cut-offs and could also be used as a yardstick for international comparisons. The prevalences of overweight and