

# Childhood Obesity – A Growing Problem



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## HIGHLIGHTS

- Obesity is a risk factor for cardiovascular disease, hypertension, type II diabetes mellitus, dyslipidemia, gallbladder disease and cancer.
  - 46 per cent of Canadian adults are overweight or obese, and are at increased health risk because of their weight.
  - The prevalence of overweight and obesity in children is increasing in Canada. The proportion of Canadian children who are obese (BMI greater than 95th percentile) increased from five per cent in 1981 to 16.6 per cent for boys and 14.6 per cent for girls in 1996.
  - The risk factors for obesity are increasing in Canadian children. The proportion of children who ate fruit and vegetables daily and exercised outside school hours decreased steadily between 1990 and 1998.
  - Physical activity levels decrease with age in the Region of Peel, with only 12.7 per cent of residents aged 45 and older physically active enough to reduce health risk in 1996/97.
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## OBESITY IN CANADA

A growing proportion of the Canadian population is becoming overweight and obese.<sup>16</sup> Being obese is a risk factor for many health problems, including cardiovascular disease, hypertension, type II diabetes mellitus, dyslipidemia, gallbladder disease and cancer.<sup>17</sup>

One measure used to assess weight is the Body Mass Index (BMI). BMI is an internationally recognized method of determining if an individual's weight is within a healthy range. It is calculated by dividing weight in kilograms by height in metres squared (pregnant women are excluded).<sup>18</sup> In general, increased BMI is associated with increased health risk.

Data from the 1996/97 National Population Health Survey show that over one-third (34 per cent) of Canadian adults are overweight (BMI between 25.0 and 29.9). An additional 12 per cent are obese (BMI of 30.0 or greater).<sup>18</sup> The combined figures indicate that nearly half of the Canadian adult population have a weight which is associated with increased health risk.

BMI calculated from self-reported weight and height from the Ontario Health Survey shows that the proportion of Peel adults who were overweight or obese increased from 43 per cent in 1990 to 45 per cent in 1996/97. This trend is similar to that in Ontario.

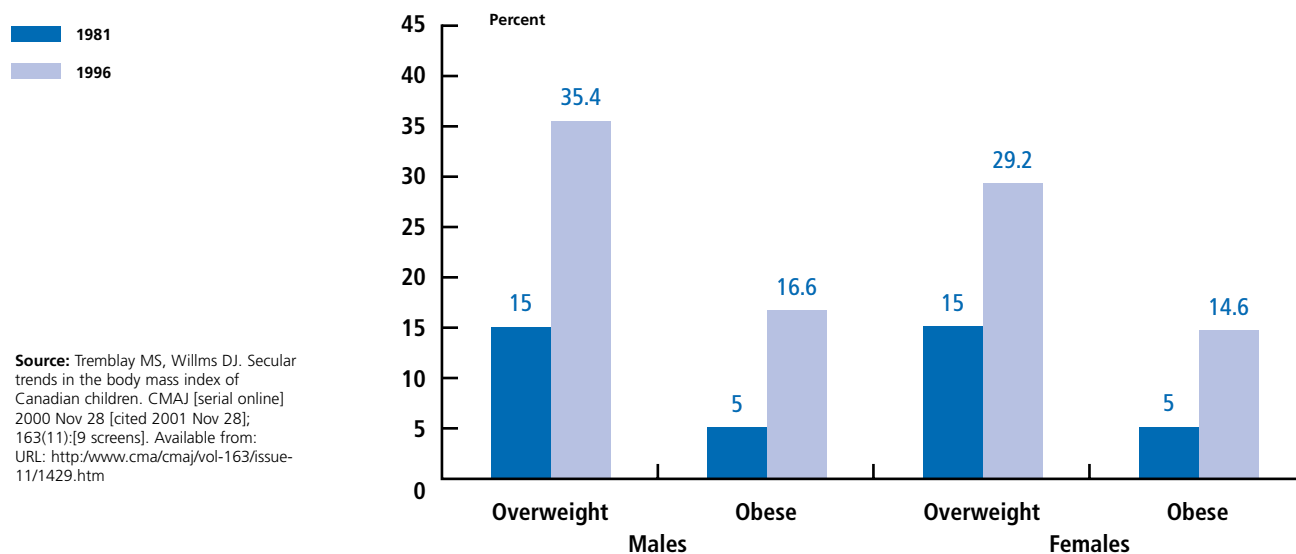
## CHILDHOOD OBESITY TRENDS IN CANADA

Patterns of behaviour which lead to an unhealthy adult weight often begin in childhood. No data is available on childhood weights in the Region of Peel or Ontario. However, there is strong evidence from national surveys that childhood overweight and obesity have been increasing in Canada over the past two decades.

As shown in Figure 9, the prevalence of overweight female children aged seven to 13 years in Canada increased from 15 per cent in 1981 to 29.2 per cent in 1996 (overweight=BMI greater than 85th percentile). In male children of the same age, the prevalence of overweight increased from 15 per cent in 1981 to 35.4 per cent in 1996. In addition, the prevalence of obesity (BMI greater than 95th percentile) among Canadian children increased from five per cent in 1981 to 16.6 per cent for boys and 14.6 per cent for girls in 1996.<sup>19</sup>

Children who are overweight have an increased risk of becoming an obese adult, and are at higher risk of early adult morbidity and mortality.<sup>20,21</sup>

**Figure 9 — Prevalence of Overweight and Obese Children Aged 7–13 Years in Canada, 1981 and 1996**



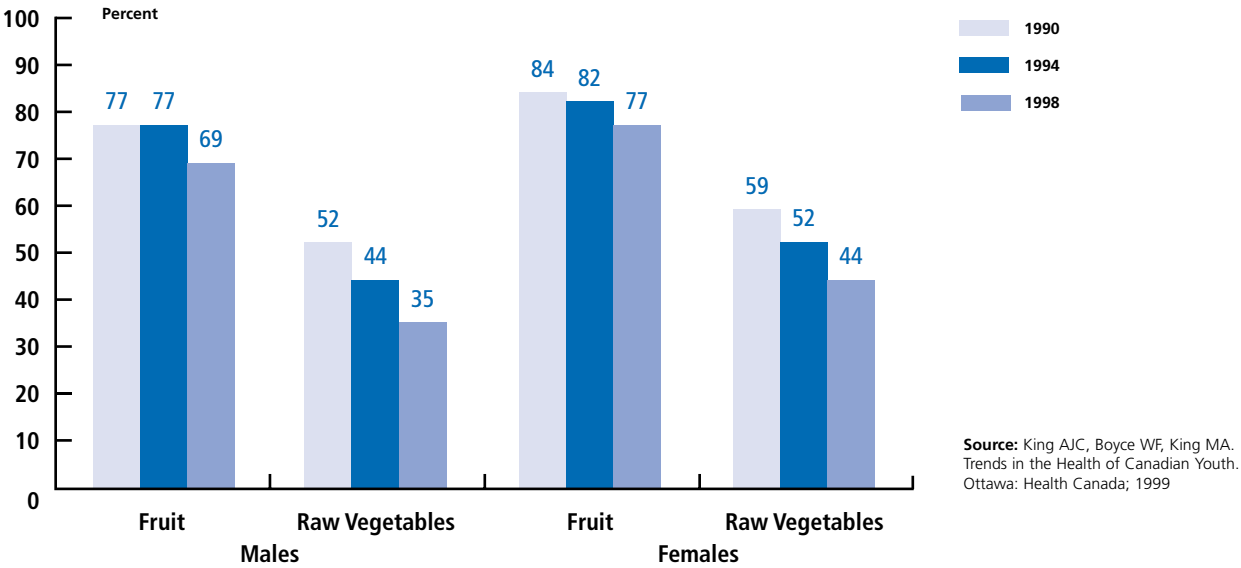
**Source:** Tremblay MS, Willms DJ. Secular trends in the body mass index of Canadian children. *CMAJ* [serial online] 2000 Nov 28 [cited 2001 Nov 28]; 163(11):[9 screens]. Available from: URL: <http://www.cma/cmaj/vol-163/issue-11/1429.htm>

# TRENDS IN RISK FACTORS FOR CHILDHOOD OBESITY IN CANADA

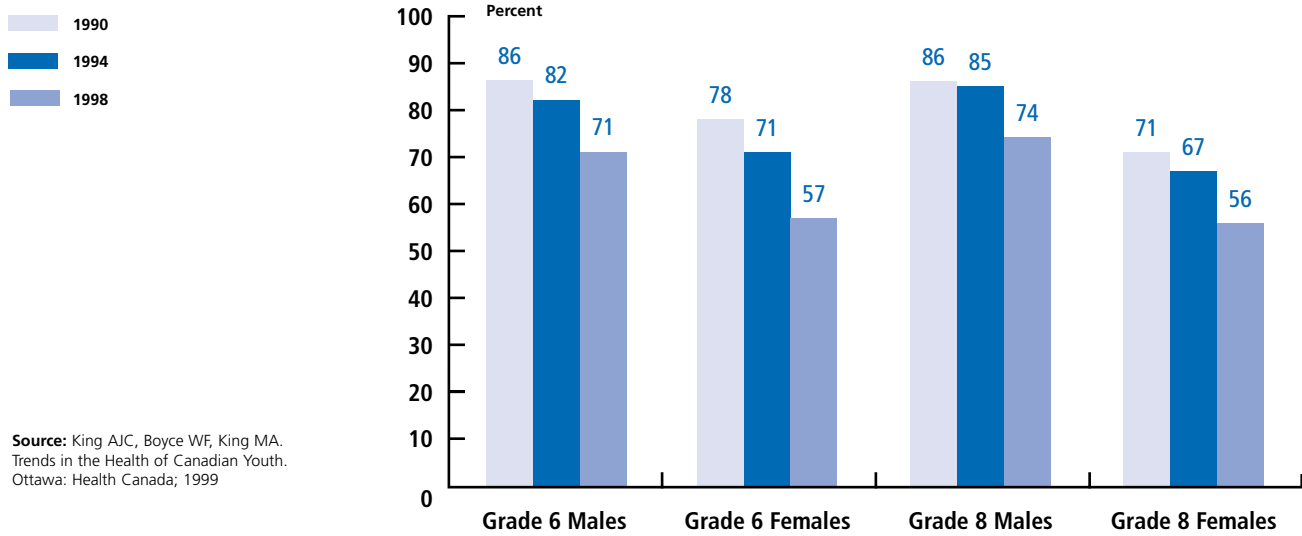
Although some people have a genetic predisposition to obesity, other important risk factors, such as lack of physical activity and food consumption patterns, are modifiable. Information on these risk factors has been collected for Canadian children as part of the World Health Organization Cross-National Collaborative Study: *Health Behaviours in School-Age Children*.<sup>22</sup> This study examined trends in health behaviours for Canadian children aged eleven, thirteen and fifteen years, between 1990 and 1998.

Two examples of data from this study illustrate trends in dietary and physical activity behaviours which may affect obesity. Figure 10 summarizes information on the proportion of Canadian children in Grade 6 who ate fruits and raw vegetables daily in three surveys in 1990, 1994 and 1998. The clear decreasing trend is also found in data for children in Grade 8 and Grade 10 (not shown).

**Figure 10 — Trends in Grade 6 Canadian Children who ate Fruits and Vegetables Daily, 1990–1998**



**Figure 11 — Trends in Grade 6 and 8 Canadian Children who Exercise Two or More Times per Week Outside School Hours, 1990–1998**



Source: King AJC, Boyce WF, King MA. Trends in the Health of Canadian Youth. Ottawa: Health Canada; 1999

Frequency of physical activity was also tracked in the WHO study. Children were asked how often they exercised until they were out of breath or sweating, outside of school hours. Figure 11 shows the proportion of children in Grade 6 and Grade 8 who exercised at this intensity two or more times per week outside of school. The decreasing trend in physical activity between 1990 and 1998 was also seen for children in Grade 10 (not shown).

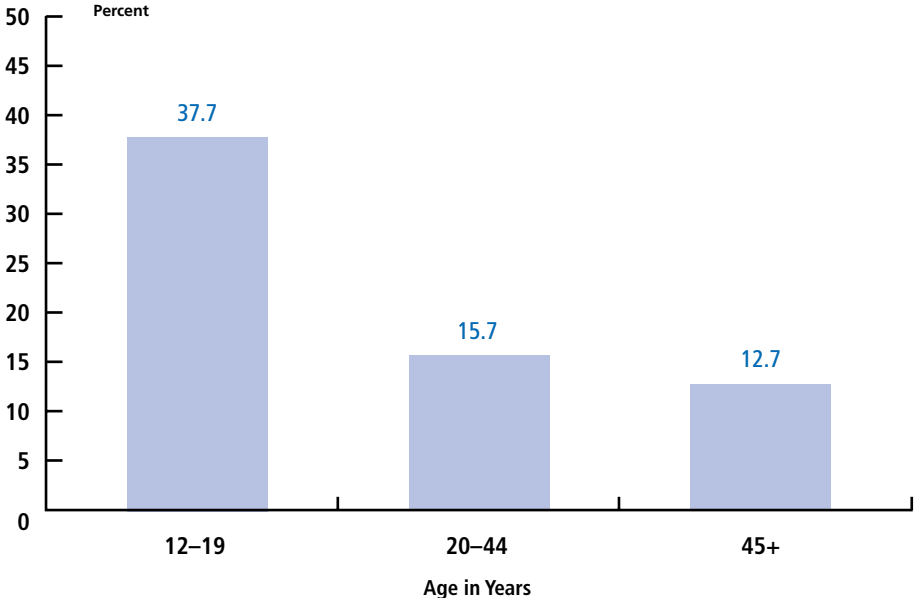
For those children who are physically active, current trends suggest that they will become less active as they become adults. According to the Ontario Health Survey in 1996/97, only 58 per cent of Peel residents aged twelve years and older reported participating in regular exercise. In this survey, regular exercise referred to physical activity lasting more than fifteen minutes, at least twelve times in the past year.

A better indicator of the health benefits of exercise is the Physical Activity Index (PAI), in which activities are grouped based on energy expenditure. Energy expenditure is calculated using the frequency and time per session of the activities and includes metabolic energy cost.

In Peel Region in 1996/97, only 18 per cent of residents over twelve years of age were considered to be “active” according to the physical activity index. About 24 per cent of Peel residents were considered “moderately active”, and 58 per cent were classified as “inactive”. In Ontario, 21 per cent were classified as “active”, 23 per cent as “moderately active”, and 56 per cent as “inactive”.

Overall, in the Region of Peel, males were more likely to be active (20 per cent) than females (15 per cent) and the proportion of active residents decreased with age for both sexes from 38 per cent in 12–19 year olds to 16 per cent in residents aged 20–44 years and 13 per cent in residents 45 years and older. Figure 12 shows the proportion of active residents by age for the Region of Peel.

**Figure 12 — Proportion of Physically Active Residents by Age  
Region of Peel, 1996/97**



Source: Ontario Health Survey, 1996/97 Data File, distributed by the Ontario Ministry of Health and Long-Term Care

### SUMMARY

Obesity is associated with a number of important causes of premature illness and death. There has been a striking increase in childhood obesity in Canada over the past two decades, and there is evidence that risk factors for obesity have also been increasing. If this trend continues, the toll of illness and mortality due to obesity in the next generation will increase.