

# 20-year study shows significant rise in childhood obesity, especially among girls

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Four-year-old girls are six times more likely to have a Body Mass Index (BMI) of more than 30 than they were 20 years ago and ten-year-olds are five times more likely, according to research published in the April issue of *Acta Paediatrica*.

Swedish researchers who studied BMI figures for more than a thousand children over two decades discovered that obesity levels had risen significantly among younger children, but that levels were much more constant among teenagers included in the research.

They also found that young girls were much more likely to be overweight or obese than boys.

For example, in 2002 the average ten-year-old girl was 2.1 per cent taller and 13.4 per cent heavier than her 1982 counterpart, with a 13.3 per cent increase in BMI. Boys were, on average, 1.1 per cent taller and 7.6 per cent heavier, with a 5.1 per cent increase in BMI.

540 children were studied in 1982 and a further 540 in 2002 – with equal numbers of girls and boys from each of the three age groups – four, ten and 16 - included in both samples. The data was drawn from official child health and school health records, as parents have a tendency to under-report the weight of obese children and are less likely to take part in studies.

"Despite high levels of parental education in the studied population, a factor that has been linked to lower childhood obesity levels, young children, especially girls, have become much more overweight or obese in the last 20 years" say lead researchers Drs Ulf Holmback and Anders Forslund from Uppsala University, Sweden.

"The large increase of obesity in four-year-olds and the lack of major change in 16-year-olds points to a recent change in the children's environment and lifestyles. We should point out, however, that the

weight data was missing from a greater percentage of the 16 year-olds' records in 2002 and this could be because some of the more overweight teenagers refused to be weighed."

Key findings included:

-- In 2002, about a fifth of four-year-olds - 22 per cent of girls and 18 per cent of boys - had a BMI of more than 25, compared with one in ten in 1982.

-- Six per cent of four year-old girls and two per cent of four-year-old boys had a BMI of more than 30 in 2002, compared with one per cent for both sexes in 1982.

-- Nearly a third of ten year-old girls (30 per cent) and a fifth of ten year-old boys (21 per cent) had a BMI of more than 25 in 2002, compared with 14 per cent of girls and eight per cent of boys in 1982.

-- Five per cent of the ten-year-old girls in the 2002 survey had a BMI of over 30, compared with one per cent in 1982. However, the level for boys actually fell from two per cent in 1982 to one per cent in 2002.

-- 11 per cent of 16-year-old girls had a BMI of more than 25 in both 2002 and 1982. The number with a BMI over 30 rose from one per cent in 1982 to two per cent in 2002.

-- Nine per cent of 16-year-old boys had a BMI of more than 25 in 2002, compared with 15 per cent in 1982. The percentage with a BMI of more than 30 remained stable at one per cent.

"Children living in Sweden tend to be more active than children in other countries such as the USA. But they spend more time in front of televisions and computers and tend to do less physical education at school than before" says Dr Holmback, who is also a visiting research fellow at the University of Chicago, USA.

"As societies become more technological, various aspects of everyday life demand less and less physical activity and this is bound to contribute to childhood obesity.

"And as overweight and obese children become overweight and obese adults they run a much higher risk of developing cardiovascular disease and type-2 diabetes."

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