

School Travel and the Obesity Challenge

Introduction

The number of children walking and cycling to school has decreased over the last 20 years, whilst levels of obesity have risen. This decrease in exercise is having a big impact on young people's health and causing illnesses such as diabetes and heart disease, problems not so common 30 years ago.

However, by encouraging active travel amongst young people we could start to reverse the rising obesity trend and help our children enjoy healthier lives.

The current situation

Childhood and adult obesity levels have grown at a similar rate since the 1970s and are continuing to rise. Figures released in April 2006 revealed that the problem has grown significantly in just a decade.

- 26% of girls and 24% of boys aged 11-15 in England qualified as obese; almost double the rate in 1995 ⁽¹⁾
- In Scotland in 2004/05, among 10-12 year old children 34.1% were overweight, including 19.4% obese and 11.2% severely obese ⁽²⁾

Research suggests that obesity among young people in Wales is greater than in England and Scotland ⁽³⁾ and is now the most common condition of ill-health in childhood and adolescence. ⁽⁴⁾

Childhood obesity is also a serious threat to health care budgets, as part of a 'new' epidemic costing the National Health Service over £8 billion each year.

How is child obesity defined?

Child obesity can be defined as an excess of body fat. A common way of measuring obesity is by using the Body Mass Index (BMI) as it is easy to understand and shows the best results. ⁽⁵⁾ More sophisticated measurement tools are, however, increasingly being used with children in order to measure fat mass.



Department for
Transport

The **Safe Routes to Schools** project is co-ordinated by Sustrans and provides support to local authorities, schools and parents. Sustrans is the UK's leading sustainable transport charity and works on practical projects to encourage people to walk, cycle and use public transport to benefit health and the environment.

Registered charity no. 326550 (England and Wales) SCO39263 (Scotland)

Sustrans, 2 Cathedral Square, College Green, Bristol, BS1 5DD

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The health risks associated with obesity

The short-term consequences of childhood obesity include psychological problems such as bullying, isolation and low self-esteem. However, the most serious consequences may be its damaging long-term effects on the health of an individual's heart and blood vessels.

Overweight adults live shorter lives and suffer a number of illnesses, particularly diabetes and heart disease. **If a young person suffers from obesity, they are much more likely to be obese as an adult and they also increase their risk of heart disease in their mid-life.**

In addition, type II diabetes, once only found among older adults, is now found among obese teenagers. If nothing is done to stop the rise in obesity, 1 in 5 of today's children is likely to suffer from diabetes in their lifetime.⁽⁶⁾

By focusing on the prevention of obesity from childhood into adulthood, it may be possible to reduce the burden of obesity in adult life.⁽⁷⁾

It is recommended that all young people should have one hour of physical activity each day in order to reduce the risk of diseases in adulthood.⁽⁸⁾

Causes of obesity

Obesity occurs when energy intake (food) exceeds energy expenditure (physical activity). Therefore both over-consumption of calories and reduced physical activity are the main causes of childhood obesity.

Environmental factors, lifestyle and cultural differences seem to play major roles in the rising prevalence of obesity worldwide, rather than genetic factors.⁽⁹⁾

Children are least likely to "grow out of" obesity when it is more severe and when they have at least one obese parent. Another factor affecting obesity can be deprivation, with children living in deprivation being at much greater risk.⁽¹⁰⁾

A World Health Organisation expert group has reported convincing evidence that consuming large amounts of food and sugary drinks are also risk factors for obesity, as is the heavy marketing of fast foods.⁽¹¹⁾ **Evidence from the National Food Survey suggests, however, that average energy intakes in the UK have been declining.**⁽¹²⁾

Studies have shown that factors such as watching television and playing sedentary games are associated with increased levels of obesity.⁽¹³⁾⁽¹⁴⁾ Staying at home is associated with the lowest levels of physical activity compared with other activities.

The school journey is now being recognised as potentially important for physical activity levels now and also in establishing an active lifestyle from childhood.

Changes in travel behaviour

One of the main reasons for the decline in physical activity among young people is that walking and cycling have been replaced by car travel for the school journey. **The sharp increase in car ownership and use have occurred over approximately the same time period as the rise in child (and adult) obesity – from the 1970s.**

Increased car-use has also led to people believing that it is more dangerous for pedestrians and cyclists, deterring people from walking and cycling. This is despite surveys reporting cycling as the most popular way of travelling to school among young people.⁽¹⁵⁾

- In 1975/76 over 65% of school journeys were made by bicycle or on foot while car travel was under 12%
- Thirty years later walking and cycling use have declined to approximately 25% to 47% of school journeys while car use has nearly trebled to 32% ⁽¹⁶⁾

Many of the factors restricting cycling are based on parental concerns: busy lifestyles, increasing journey distances, lack of older role models, danger (from traffic and isolated attacks) and bike security.⁽¹⁷⁾

It is worth considering, however, that sometimes a perception of a problem can be unfounded, and we should look to reconcile any concerns with the reality of the school journey.

Preventing weight gain

One large UK study has reported that **an increase in physical activity of 15 minutes a day can reduce the likelihood of obesity in young people by nearly 50%.**⁽¹⁸⁾ Higher intensity activity also appears to be more important than total physical activity.

Schools can play an important role in reducing and preventing obesity in young people by providing nutrition education, physical activity promotion and healthy school meals.⁽¹⁹⁾

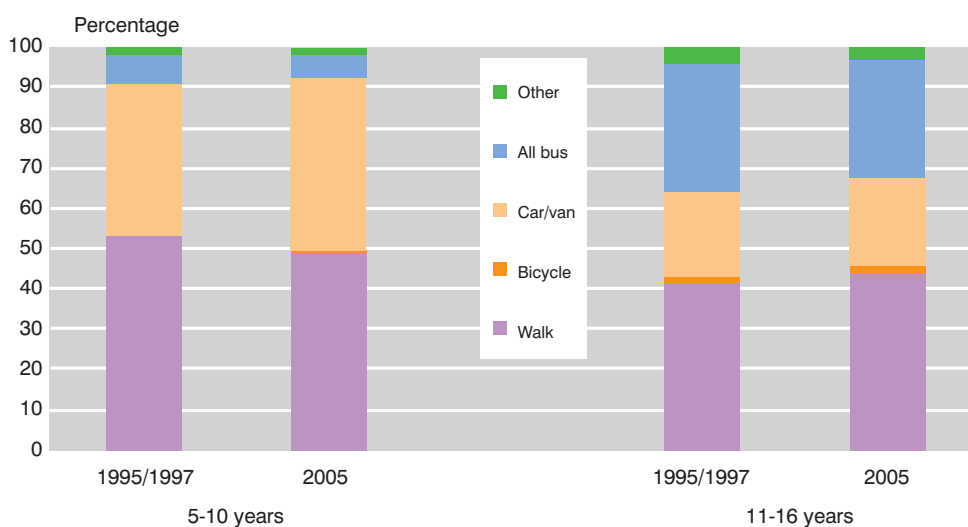
In addition, reducing obesity levels is an important target for schools because children's health is essential for maximum educational benefit.⁽²⁰⁾ Indeed, **physical activity has been associated with higher motivation at school**, reducing anxiety and depression, and therefore with a positive effect on school work.⁽²¹⁾

Parents can also play an important part by avoiding car trips for local journeys and acting as positive role models.⁽²²⁾



Journeys to school by type and age group

Source: Department for Transport (2006) National Travel Survey



Active Travel and weight management

Although the number of studies is relatively small, the evidence reinforces the importance of active travel for the school journey as it is a repeated activity and one that can become habitual.

One study has reported that walking to and from school consumed many more calories than two hours of PE or games for children aged 12-13. It also found that children who walk to activities tend to be more active when they arrive than those who travelled by car.⁽²³⁾

In another study, it was revealed that children who walked to school had higher levels of overall physical activity throughout the day compared with those that travelled by car, bus, or train.⁽²⁴⁾

The school journey may help weight management more for children at secondary school than at primary school at least partly because of the

increased journey distances. Importantly, the school journey can act to provide a level of fitness which then enables children to have the self-belief and ability to take part in sport and more vigorous activities which they might otherwise have avoided.

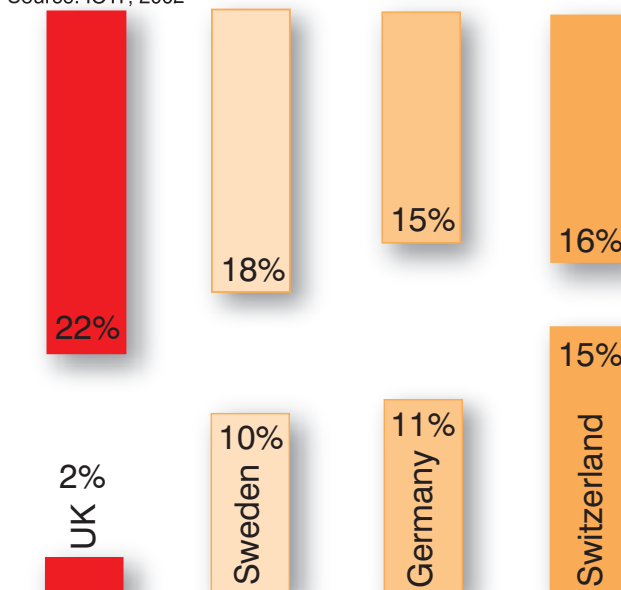
A study from Denmark, where many children cycle the school journey, reported that in a representative sample of young people aged 9 and 15, cycling to school was associated with significantly higher levels of cardiovascular fitness compared with travelling to school by car or bus. This association was similar in children and adolescents and in boys and girls.⁽²⁵⁾

Although there is little specific research focused on the relationship between cycling, children and weight management, an association has been made that **countries with relatively high levels of cycling have lower levels of obesity** (see graph).



Prevalence of overweight children

Source: IOTF, 2002



Levels of cycling

Source: DfT, 1996

A 2008 study in the United States of over 12,000 participants showed a strong correlation between excess weight in adolescence and being overweight as an adult.⁽²⁶⁾

Of 941 overweight adolescents, only 103 were of normal weight as young adults. Interestingly, those cycling (or rollerblading) 4 times per week reduced the chance of being overweight as adults by 48%. Overweight adolescents participating in these activities 3-4 times per week were 85% more likely to be normal weight in young adulthood than if they did not.



The Future?

In 2007, the Government produced their Foresight Report, *Tackling Obesities: Future Choices*, predicting that 60% of the UK population could be obese by 2050. Other than the obvious health and social costs, the economic consequence of this is estimated at £50 billion (at today's prices).

Cycling and walking to school are cited specifically as key issues in preventing this scenario, and increasing the walkability/cyclability of the built environment is one of the top five policy responses.

Parallels are drawn with Climate Change, in that "failure to act early will lead to serious adverse consequences in just a few decades." The good news is that many of the remedies, especially increased physical activity and the environment to support it, will tackle both challenges.

Conclusions

The causes of obesity appear to largely be an excess of calorie intake over calorie expenditure. In addition, walking and cycling for the school journey have been in decline during the same time period as there has been a dramatic rise in child obesity. There are many health benefits of physical activity for children, and they continue to choose to walk or cycle when asked how they would like to travel.

“ Children and adolescents provide the greatest opportunity to influence attitudes towards activity. Children who emerge from their school years feeling confident about their physical skills and bodies and who have had positive experiences of physical activity are more likely to be active through adulthood. ”

“At least Five a Week”, Chief Medical Officers report 2004

Even if the school journey is relatively short, a child will always get more exercise if they walk or cycle than if they are driven to school by car. The school journey gives young people the opportunity to increase their levels of physical activity in an important stage of their life when the body is developing and growing.

At the very least, the school journey should be considered an important way of helping children reach the recommended target of a minimum of 1 hour of physical activity a day, and as an important part of the toolkit in potentially maintaining a healthy bodyweight.

For more information about young people's health and the journey to school, please see our information sheets 'The Health Benefits of Walking and Cycling to School' or visit our website.

Further information

www.who.int

www.euro.who.int/childhealthenv

www.publications.dft.gov.uk

www.dh.gov.uk

www.ic.nhs.uk

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Further information

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Sustrans would like to thank all staff who have contributed photography.

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