The role of the school nurse in tackling childhood obesity

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The prevalence of obesity and overweight children of all ages is increasing. There are many factors that can lead to obesity in children, all of which must be considered and understood before an effective strategy can be implemented to tackle the problem. Evidence from the Health Development Agency recommends the focus of research should be redirected to look at the effectiveness of prevention and management strategies rather than the generation of statistics confirming the existence of the problem.

Obesity has been described as a national epidemic with the prevalence of obesity and overweight children of all ages increasing (NHS Centre for Reviews and Dissemination, 2002). The published findings last week of the Health Select Committee’s report on obesity (Health Select Committee, 2004) made bleak reading for all health professionals involved in health education and health promotion, and has highlighted the seriousness of the problem.

Recommendations from the Health Select Committee included the annual screening of all school-age children for obesity with results and recommendations for remedial action to be sent home to parents. However, school nurses have raised concerns about the effectiveness and appropriateness of such a measure. This article discusses these concerns and the issues surrounding the problem of obesity in children.

What is obesity?

Obesity and overweight are said to have occurred when weight gain (caused predominantly by fat) has increased to the level at which it is endangering health (Mulvihill and Quigley, 2003). In overweight and obese people, abnormal or excessive fat accumulation in adipose tissue results in a raised body mass index (BMI) where their weight is greater than that which is appropriate for their height.

Body weight is kept in balance by the consumption of the appropriate amount of energy (kilocalories/joules) for the amount of energy expended. Any excess consumption of energy will result in the surplus being stored in the body as fat.

The level of obesity depends on the number and size of fat cells in the body. For example, moderately obese individuals have an average number of fat cells that are typically large, whereas severely obese individuals have been shown to have a large number of exceptionally large fat cells (Brownell, 1982).

The number of fat cells an individual develops tends to be determined in the first few years of life and is dependent on genetic factors and eating habits. Developing a high number of fat cells at this stage is likely to lead to obesity in adulthood (Taylor, 1999). With this in mind it is important that strategies to prevent obesity are targeted appropriately at the parents of the very young. Poor eating habits and lack of exercise later on in life, for example during adolescence or adulthood, will result in an increase in the size of fat cells but not in the number. This can contribute to an individual becoming overweight or obese (Taylor, 1999).

Obesity in children

Research into the causes and incidence of obesity in children has been taking place for many years. There are many factors that can lead to obesity in children, all of which must be considered and understood before an effective strategy can be implemented to tackle the problem. The physiological process of fat cell formation will have an effect on the likelihood of a child becoming obese. Other key factors include:

- Lack of exercise – many experts in the field of weight management have cited a lack of physical activity as a major factor in the increased incidence of obesity. Less than five per cent of children cycle to school now compared with more than 80 per cent 20 years ago (Obesity Resource Information Centre, 1997). The time spent on physical education activities in schools has also declined and there has been an increase in sedentary pastimes such as watching TV and using computers;
- Dietary choices – modern lifestyles have resulted in a decrease in the consumption of nutritious food and an increase in the consumption of junk food;
- Teacher training – not all teachers are confident in dealing with overweight and obese children;
- The provision of curricular material – not all school curricula provide adequate material on obesity;
- A reduction in sedentary behaviour – not all schools encourage physical activity.

**BOX 1. SCHOOL-BASED INTERVENTIONS TO TACKLE OBESITY**

- Nutrition education
- Physical activity promotion
- A reduction in sedentary behaviour
- The provision of curricular material
- Teacher training
- The modification of school meals

(Source: Mulvihill and Quigley, 2003)
shift away from home-cooked meals towards the increasing use of convenience foods and snacks. Working parents often do not have the time or energy to devote to planning meals for their children. The independent social habits of children – such as shopping and visiting friends - lead them into environments where food and snacks are readily available and encouraged (Wills, 2004). Convenience foods are often targeted at children and are often high-calorie foods of low nutritional value;

● Socioeconomic factors – it is a well-known fact that children from poorer backgrounds and disadvantaged groups are more likely to experience weight problems. People from these groups often have limited transport options, which affect their choice of food outlets and their access to environments where it is possible to be physically active in safety.

Strategies for preventing obesity
A number of strategies for preventing obesity in children have been suggested and tried over the years. A recent analysis of reviews of diet, physical activity, and behavioural approaches has been published by the Health Development Agency and can be found at their website (HDA, 2004). Evidence from this document highlights the effectiveness of multifaceted school-based interventions (Box 1).

There is a lack of evidence to support the use of family-based health promotion interventions for the prevention of obesity. However, there is evidence to support this approach for the treatment of obesity. Such interventions involve sustained contact with children and their parents and focus on:

● Dietary education;
● General health education;
● Increased activity for the children and at least one parent.

Many such strategies used successfully to treat obesity include the active involvement of parents who are encouraged to take primary responsibility for the behaviour changes necessary to ensure the success of the programme. These parents receive lifestyle counselling and training in parenting and communication skills. Such programmes involve a massive time commitment from the health care professional involved and can be very rewarding.

However, it should be recognised that there are only a limited number of professionals with the necessary qualifications to provide this service. The current number of obese adults and children already stretches services such as the provision of lifestyle counselling and one-to-one dietary and exercise advice. If strategies such as lifestyle counselling are to be extended to all parents in an attempt to prevent obesity then there will need to be a huge injection of resources for school nurses and other primary health care professionals.

Screening
The Health Select Committee last week made the recommendation that all school-age children should be screened annually for obesity by having their BMI measured. This would be a huge undertaking for school nurses and would generate a mass of information that ultimately would be of little use. It is widely accepted that although a BMI is a good indication of whether a ‘normal’ healthy adult is overweight, healthy, overweight or obese, it is of little clinical use with children.

Both the Obesity Resource Information Centre (ORIC) (www.aso.org.uk) and the British Nutrition Foundation (www.nutrition.org.uk) cite the limitations of using BMI measurements in children and instead recommend that a child’s BMI should only be expressed in relation to her or his age and sex-adjusted centile charts designed to plot growth and development. The British Nutrition Foundation website states it is ‘not appropriate’ to measure the BMI of a child in order to assess obesity in light of this evidence from two highly respected bodies it is difficult to see what the benefits might be of using already stretched resources to generate a mass of clinically irrelevant information.

In addition the current National Screening Committee policy position on the screening of children for obesity states that at this time there is insufficient evidence to recommend screening for obesity in children. This policy position was last updated in March 2003 and is to be reviewed this year (www.nelh.nhs.uk/screening).

Evidence from the Health Development Agency also supports this view and recommends the focus of research should be redirected to look at the effectiveness of prevention and management strategies rather than the generation of statistics confirming the existence of the problem (Mulvihill and Quigley, 2003).

Nursing implications
It is clear from the causes of obesity that any strategy implemented to prevent its occurrence will need to involve not just health professionals but also professionals from fields such as education, transport, sport and leisure, and the food manufacturing industry. What we must do as a multiprofessional group is to agree and implement a strategy that will be effective and that will target the root causes of the problem. In order to achieve this we must also secure the support and commitment of parents and children.

Screening children annually is not the answer. Amassing vast quantities of information that is of limited use except to confirm what is clearly visible will divert school nurses away from dealing with the problem itself. Obesity is a visual thing. Children who need intervention are easily identified without the need for screening programmes for all. The idea that screening all children will prevent the overweight or obese child being stigmatised is somewhat naïve.

Children routinely compare such things as injection sites and having a BMI measurement will be no different. If school nurses are to be an effective resource in the battle against obesity it seems logical that their time needs to be spent carrying out worthwhile health promotion and health education strategies and not on high-activity, low-achievement exercises.

REFERENCES


