The obesity epidemic: can we turn the tide?

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Obesity has reached epidemic proportions in the UK. It is important because of the associated co-morbidities, which include cardiovascular disease, type 2 diabetes, and osteoarthritis. The prevalence of obesity has increased because of a combination of excessive calorific intake (for example, from increased intake of energy dense foods) and insufficient energy expenditure (associated with a sedentary lifestyle). Weight loss of 5–10%, which can be achieved in primary care, is associated with significant health benefits. Obesity treatment in primary care includes lifestyle modification and drug treatment. The prevention and treatment of obesity cannot, however, be left solely to health professionals. Action is needed by government, the food industry, and society as a whole.

Before considering the scale of the obesity problem in the UK, it is instructive to consider the trend in the development of obesity in the USA. In 1985, few states collected prevalence data as obesity was not seen to be an issue of interest. But over the years the problem developed and by 2000 about 20% of the US adult population was obese, defined as a body mass index (BMI) of ≥ 30 kg/m². There is now great concern in the USA about the current level of obesity as it is now widely accepted that obesity is a disease in its own right and that it causes serious co-morbidities.

The UK is following a similar pattern and is now not far behind the USA. Obesity is already a disease of epidemic proportion, with the UK being known as the “fat man of Europe”. In 1980, 8% of women and 6% of men in England were classified as obese. By 1998, the prevalence of obesity had nearly trebled to 21% of women and 17% of men. Currently, over half of women and about two thirds of men are either overweight (BMI ≥ 25 kg/m²) or obese.

The problem of obesity is also becoming apparent in children, although there is as yet no consensus on how to define overweight and obesity in childhood. A population based study in Liverpool analysed routinely collected data from over 64 000 children under the age of 4 years and defined overweight as a standard deviation score > 1.04 for BMI (> 85th centile) and obese as an SD of > 1.64 (95th centile). They found that between 1989 and 1998 there was a highly significant increase in weight and BMI. The proportion of overweight children increased from 15% to 24% and the proportion of obese children from 5% to 9%.

**CONSEQUENCES OF OBESITY**

Obesity is important because it substantially raises an individual’s health risk (table 1), particularly from hypertension, dyslipidaemia, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnoea and respiratory problems, and endometrial, breast, prostate, and colon cancers (fig 1). Higher body weights are also associated with increases in all cause mortality. In addition, obese individuals may suffer from social stigmatisation and discrimination.

The relative risk of non-fatal myocardial infarction, fatal coronary heart disease, and type 2 diabetes increases as BMI increases. Figure 2 shows the effect of BMI on relative risk of cardiovascular disease in women. A man with a BMI of 32 kg/m² has an 11-fold increased risk of type 2 diabetes compared with a man of normal weight, and a man with a BMI ≥ 35 kg/m² has a 40-fold increased risk (fig 3). The relative risk associated with obesity is even higher in women. The association between body weight and diabetes is explained by the effects of fat on insulin resistance. It is now known that central (abdominal) obesity is the most dangerous form of obesity in terms of cardiovascular and metabolic risk.

In addition to calculating BMI, it is therefore useful to measure waist circumference: a measurement of ≥ 88 cm in women and ≥ 102 cm in men is associated with increased risk of ill health. The cause of obesity is complex: genetic, biochemical, environmental, neurological, physiological, cultural, and socioeconomic factors can all be involved. As many as 250 genes are currently under investigation for their influence on obesity. It is thought that through evolution human beings have become “pre-programmed” to retain

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<tr>
<th>Table 1 World Health Organization classification of overweight and obesity (BMI = weight(kg)/height(m)²)</th>
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<td><strong>Class</strong></td>
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<tr>
<td>-----------------------------------------------</td>
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<tr>
<td>Underweight</td>
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<tr>
<td>Normal range</td>
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<td>Overweight (grade 1 obesity)</td>
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<td>Obese (grade 2 obesity)</td>
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<td>Morbid/severe obesity (grade 3)</td>
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However, something that can be managed solely by health professionals. The prevention and treatment of obesity requires action by government, the food industry, and society as a whole. The problem has now been recognised by the government: the importance of managing obesity is recognised in the national service frameworks for both coronary heart disease and diabetes, and the National Institute of Clinical Excellence has published assessments of the anti-obesity drugs orlistat and sibutramine, and of weight reducing surgery. There is also now an all party parliamentary group on obesity and reports on obesity have been produced by the National Audit Office and the Public Accounts Committee. These reports are welcome as they indicate that increased attention is being paid to obesity and that the disease is likely to gain higher priority.

Obesity is a chronic disease with serious health consequences. Many overweight and obese patients are likely to have some form of cardiovascular disease, and weight management should form the first line of treatment. Lifestyle modification (dietary, physical activity, behaviour modification) is the key to management of obesity. However, anti-obesity medication also has a significant role to play in selected patients, as does surgery, although this is underfunded in the UK. A team approach to the management of obesity is required, and this should involve a wide range of healthcare staff, including doctors, nurses, dietitians, pharmacists, and psychologists. It is important to motivate the obese person, working with them to achieve and maintain weight loss. Blaming the individual is inappropriate and does not produce positive outcomes.

A general practitioner with an average list of 2000 patients is likely to have around 800 overweight adults (BMI > 25 kg/m²), 320 obese adults (BMI > 30 kg/m²), and 16 morbidly obese adults (BMI > 40 kg/m²). Ninety five per cent of these patients will see their general practitioner at least once every five years. Weight loss of 10 kg, which can be achieved in primary care, is associated with significant health benefits (table 2).

**CONCLUSION**

Obesity is now a disease of epidemic proportions in the UK. It is a disease that has multiple causes and is not the patient’s “fault”. Obesity is one of the major risk factors for cardiovascular disease. It is preventable and treatable, and treatment is integral to the management of coronary heart disease and diabetes. Successful weight loss delivers substantial clinical benefit.
REFERENCES