

Addressing the rising problem of obesity



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Those of us working in primary care face daily the clinical consequences of our obesogenic society. For most people, obesity is the classic “frog-heating-slowly-in-the-laboratory-flask” problem, where people are unaware of impending danger until they slowly succumb to it.

As BMI increases, the risk of diabetes also increases, and diabetes presents at a younger age in obese people (Prospective Studies Collaboration et al, 2009). Indeed, a recent study in primary care has shown that obesity alone is the best predictor of undiagnosed diabetes (Woolthuis et al, 2009). The increased incidence of obesity is associated with sleep apnoea, cardiovascular disease and osteoarthritis, and more recently, evidence has shown that obesity increases the risk of cancer, being cited as the cause of up to 70 000 European cancers per year (Renahan et al, 2009). Each five-point increase in BMI over 25 kg/m² is associated with a 30% increased risk in overall mortality (Mokdad et al, 2003).

Obesity: The nature–nurture debate

Many people believe that obesity is related to a change in dietary habits, with populations consuming increasing amounts of high-fat, energy-dense foods that have become comparatively cheaper, along with a population decline in physical activity. However, a case has also been made for a genetic link to obesity. In this issue of *Diabetes & Primary Care*, both sides of the argument are debated (See pages 269–70).

Preventing obesity

The prevention of obesity is a challenge, particularly in younger age groups. Intuitively, an increase in physical activity and a reduction in calorie intake should result in weight loss or weight stabilisation. However, when this approach is subjected to rigorous trials, the results are disappointing. Well-motivated and encouraged participants in diet trials will at best achieve a mean weight loss of 3–4 kg after 2–4 years, and people who are poor or

uneducated may achieve even less weight loss (Sacks et al, 2009).

The “medicalisation” of obesity is convenient for politicians as it allows them to opt out of the much larger task of societal change. The population approach has been successful at a micro level in a French town, which made significant changes in its infrastructure and improved obesity rates among the child residents (Romon et al, 2009). Others have also called for a “soda tax” on sugary drinks (Roehr, 2009).

Which treatments are successful for people with obesity and diabetes?

The results of counselling in primary care are disappointing. In the US, one study found that low- to moderate-intensity obesity counselling, delivered by the family physician, did not result in clinically meaningful weight loss (Tsai and Wadden, 2009).

In 2007, a Cochrane review by Nield et al, highlighted that there are no high-quality data on the efficacy of the dietary treatment of type 2 diabetes. However, the available data indicate that the adoption of exercise appears to improve HbA_{1c} at 6 and 12 months in people with type 2 diabetes. This is most likely to be due to the effects of exercise on insulin sensitivity (Nield et al, 2007).

The current statement from the American Heart Association (Grundey et al, 1999) recommends that people with type 2 diabetes should perform cardiorespiratory exercise for a minimum of 150 minutes per week at moderate intensity, or 90 minutes per week at vigorous intensity, or both. In addition, these people should be encouraged to perform resistance training 3 times per week.

More recently, dietary interventions were explored in overweight people newly diagnosed with type 2 diabetes (Esposito et al, 2009). Compared with a low-fat diet, a low-carbohydrate, Mediterranean-style diet led to more favorable changes in glycaemic control and coronary risk factors and delayed the need for antidiabetes drug therapy in overweight people who have been newly diagnosed with type 2 diabetes.

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The two weight loss drugs orlistat and sibutramine produce modest weight loss and can be prescribed for limited durations (Mark, 2008). Orlistat has recently become available in the UK as an over-the-counter preparation at half the prescribable dose, and has been shown to prevent the progression from impaired glucose tolerance to type 2 diabetes (Torgerson et al, 2004). Sibutramine is effective but raises blood pressure and is not suitable for those with hypertension. Both of the current GLP-1 receptor agonists, exenatide and liraglutide, can reduce weight although neither have a specific license for this yet. It is possible that in the future we may divide antidiabetes medications into those that reduce weight and those that do not.

It may be the lack of truly effective interventions for weight loss that has created interest in surgical interventions such as bariatric surgery. Allergan have achieved a license for gastric banding to treat diabetes. Unfortunately, the availability of gastric surgery from the NHS varies considerably between the four countries in the UK, and among PCTs, in spite of clear NICE (2006) guidance. A systematic review and meta-analysis of the resolution of type 2 diabetes after bariatric surgery found a total remission rate of diabetes in 78% of participants (associated with 55% excess weight loss) and improvement in diabetes control in 87% of participants (Buchwald et al, 2009).

The resolution of type 2 diabetes occurs immediately after Roux-en-Y gastric bypass and biliopancreatic diversion with duodenal switch, whereas with gastric banding, improvement of diabetes is dependent on weight loss. The costs of bariatric surgery must, however, be balanced against the cost of the continuing medication, hospital visits, and treatment that would be required if a person does not have surgery.

Conclusion

In primary care, we need to take the current epidemic of obesity and nutrition-related conditions seriously. Our role should extend beyond our limited treatment options, to a wider public health approach to encourage long-term sustainable changes in peoples' diet and lifestyles, as well as lobbying to

bring changes, both in the food industry and our environment, that will lead to a more physically active and ultimately healthier population with a decreasing, rather than increasing, incidence of diabetes. ■

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