

GET TO GRIPS WITH OBESITY

(2) NON-DRUG STRATEGIES

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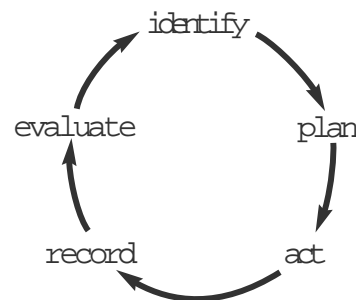
Obesity is a public health challenge. Pharmacists must have regard to interventions that have proved most effective. This second article in our obesity series explores the benefits of weight loss and some of the strategies that may be employed to achieve it



identify gaps in your knowledge

1. What is the maximum number of calories in a "very low calorie diet"?
2. What is cognitive behaviour therapy?
3. What counts as one portion of fruit or vegetables?

This article relates to the Royal Pharmaceutical Society's core competencies of "common disease states" and "health promotion" (see "Medicines, ethics and practice — a guide for pharmacists", number 25, July 2001, p104). You should consider how it will be of value to your practice.



Although patients who are obese or overweight require specialist intervention, pharmacists can complement this advice. We are in a prime position to support and guide patients through a variety of lifestyle interventions ranging from giving general healthy living advice and helping to evaluate body mass index and risk profiles, to setting up weight management programmes in partnership with other health care professionals. A sound knowledge of the main strategies employed in tackling obesity will result in confidence when dealing with individuals who will be at different stages of obesity management.

BENEFITS OF WEIGHT LOSS

Targets for weight loss in obesity are often quoted as 5 to 10 per cent of total body weight because the focus should be on healthy weight loss rather than on ideal body weight. Although this may not seem significant, particularly when presented with an extremely obese patient, the metabolic implications of such a loss are staggering. Moreover evidence shows that this percentage of weight loss is worthy of pursuing (see Panel 1) and suggests that weight loss is more successful in the longterm because unrealistic targets lead to failure and reluctance to try again.

Blood pressure appears to decrease linearly with weight loss and one study shows that hypertensive males losing an average of 8.3kg experienced an average fall in blood pressure of 14/13mmHg.² Effects on blood lipids are also favourable. For each kilogram of weight lost, serum cholesterol falls by approximately 1 per cent, low density lipoprotein by 0.7 per cent and triglycerides by just under 2 per cent.³ Effects on high density lipoprotein (HDL) are mainly positive although some studies are unclear, with beneficial HDL rises being observed in men only.

Weight loss has profound effects on blood glucose, independent of co-existing diabetes. There is evidence that both

weight loss and restriction of energy intake lead to improved glycaemic control. For each 5kg of weight lost by a person with diabetes, an average reduction in fasting blood glucose of one mmol/L can be expected,⁴ a reduction similar to the effect of some oral hypoglycaemic agents. Lastly, the effect of weight loss on the patient's feeling of general well-being cannot be underestimated.

WEIGHT LOSS STRATEGIES

Panel 2 (p653) shows guidelines on the management of adult obesity and overweight in primary care. The main strategies are dietary intervention, physical activity, pharmacotherapy and behavioural therapy. Surgical treatment of obesity (bariatric surgery) is reserved for the morbidly obese (where the medical risks of obesity outweigh the risk of surgery) who have tried the other strategies. Surgery aims either to enforce dieting (eg, by reducing the size of the stomach) or to produce malabsorption (eg, by bypassing sections of the gut). Procedures include stomach stapling, gastric bypass and jaw wiring, but for all patients intervention starts with dietary focus.

Dietary strategy The traditional approach to weight reduction or maintenance has been the prescription of low calorie diets, often termed "reducing diets". These are intended to provide an energy intake less than the individual's expenditure. Reduction in calories is usually achieved by restricting certain food subtypes, especially those providing "empty calories" (foods that provide calories but have no nutritional value, eg, alcohol), but other macronutrients such as complex carbohydrates may be increased to a reasonable level, ie, a qualitative as well as a quantitative approach.

General use of low calorie diets, with or without recommendation from a health care professional, is common but evidence of the efficacy of popular regimens (eg, high protein diets) is difficult to assess because many studies do not meet the standards usually required of pharmaceutical trials. Examples of problems are unmatched patient groups and omission of follow-up. In 1997, the National Health Service Centre for Reviews and Dissemina-

PANEL 1: HEALTH BENEFITS OF A 10 PER CENT WEIGHT REDUCTION¹**MORTALITY**

20–25% fall in total mortality
30–40% fall in diabetes-related deaths
40–50% fall in obesity-related cancer deaths

BLOOD PRESSURE

10mmHg reduction (systolic and diastolic)

DIABETES

Reduction in risk of diabetes by over 50%
Reduction in fasting blood glucose by 30–50%
Fall in glycated haemoglobin (HbA1c) of 15%

LIPIDS

10% reduction in total cholesterol
15% reduction in low density lipoprotein
30% reduction in triglycerides

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PANEL 2: NATIONAL OBESITY FORUM'S GUIDELINES ON MANAGEMENT OF ADULT OBESITY AND OVERWEIGHT IN PRIMARY CARE

1. PATIENT SELECTION

- Active rather than passive (opportunistic screening rather than reliance on self-referral)
- Treatment or advice should be offered to patients with BMI >30, patients with BMI >28 with co-morbidities (eg, cardiovascular disease), patients with any degree of overweight and diabetes or severe risk factors (eg, hypertension, hyperlipidaemia etc) and patients who self-refer, where appropriate.

2. INVESTIGATE

Use BMI, waist circumference, blood pressure, urinalysis and blood tests to isolate any medical conditions, obtain a baseline for future measurements and exclude any co-morbidities. Other tests should be carried out as dictated by co-morbidities (eg, electrocardiogram, glucose tolerance test).

3. FIRST LINE

- Motivation and encouragement: realistic targets, treatments and expectations should be agreed with patients
- Advice about co-existing risk factors, eg, alcohol, smoking etc
- Permanent lifestyle changes, eg, less television, more exercise
- Diet: reduce calorie intake, dietary fat and "empty calories"
- Regular follow-up appointments, eg, up to three a month for the first year, to help maintain weight loss.

The success of first line treatment can be assessed after three to six months by the reduction of BMI, improvement of symptoms, or reduced markers of co-morbidity (eg, exercise tolerance, blood sugar etc). If these criteria are not achieved, then second line treatment should be considered.

5. SECOND LINE

- Behavioural therapy
- Pharmacotherapy
- Alternative treatments (eg, very low calorie diets)
- Referral to secondary care (surgical procedures)

tion evaluated 10,000 published references on the treatment of obesity and identified only 97 as having met requirements.⁵ However, most medically prescribed low calorie diets will be low in fat and high in complex carbohydrates, restricting energy intake to 800–1,500kcal per day.

A number of studies claim greater success with using a tailored, fixed energy deficit diet rather than a diet that merely restricts energy to a fixed numerical intake. This type of diet involves a dietitian estimating energy expenditure based on the individual and prescribing a diet that is balanced in macronutrients but producing a deficit of 500–600kcal per day. Individualising guidance aids concordance by allowing for patient centred factors (eg, type of employment), and promotes ownership of the diet. The aim is to empower the patient to make educated decisions over dietary choices on a daily basis. Panel 3 shows a template from which tailored advice can be developed to create a weight loss of 0.5–1kg per week. There are differing opinions on the role of very low calorie diets (800kcal or less). The National Institutes of Health (United States) do not advocate a diet of below 800kcal per day whereas other professionals may use very low calorie diets for patients with body mass index >40. If used, proper medical supervision is required.

For those engaging in weight loss or maintenance, dietary advice and support is essential. Patient education can be a powerful stimulus for generating healthy lifestyle changes. General points to get across are:

- Diets should contain food from all four food groups: bread and cereals; fruit and vegetables; meat and fish; dairy products. Because no single foodstuff contains all nutrients, variety is required for a healthy diet.

PANEL 3: DIETARY GUIDANCE FOR HEALTHY WEIGHT MANAGEMENT⁶

| | |
|-----------------------|---|
| Calories | Create an energy deficit of 500kcal (max 1,000kcal deficit) |
| Total fat | Less than 30% of total energy intake |
| Saturated fat | 8–10% of total energy intake |
| Monounsaturated fat | Up to 15% of total energy intake |
| Polyunsaturated fat | Up to 10% of total energy intake |
| Cholesterol | Less than 300mg per day |
| Protein | To supply 15% of total energy intake |
| Carbohydrate | To supply over 55% of total energy intake |
| Sodium chloride | Less than 1,000mmol/day (6g salt daily) |
| Calcium | 1–1.5g per day |
| Fibre | 20–30g per day |
| Water | 2L per day, increased in heat/with exercise |
| Vitamins and minerals | Supplementation recommended on diets providing <1,200kcal/day. Women of reproductive age should consider iron and calcium |
| Alcohol | Minimal (to none) |

- Although there are no special foods for overweight or obese people, low-fat and reduced-sugar choices will help.
- In the past, bread and potatoes have been mistakenly thought to be weight-gaining foodstuffs. It is the addition of butter, cream and sauces that increases the calorie content of such foods.
- Eating five portions of fruit and vegetables a day is not as difficult as people might think. The fruit or vegetables can be raw, cooked, canned, frozen or dried and one portion can be provided by one large slice of a large fruit (eg, melon), one medium sized fruit (eg, apple, banana), two small fruits (eg, plums), one cupful of berries or grapes, two tablespoons of vegetables, one small bowl of salad, one tablespoonful of dried fruit or one glass of juice.

Educational leaflets can be sourced from bodies such as the Food Standards Agency and some health authorities, with topics such as the energy content of different foods, nutrition labels and their meanings, new habits for purchasing foods, avoiding over consumption of energy dense foods, portion size reduction, strategies for eating out, and awareness of hunger and satiety. Some specialist organisations can also provide menus, recipes and diaries.

Physical activity Although obesity is multifactorial, for most, a sedentary lifestyle is the main cause of the condition. Technological advances have caused inactivity which compounds the effects of energy dense diets. It has been shown that inactivity itself leads to poor eating habits.⁷ One need only visit a local video store to see that crisps, popcorn and a variety of chocolates and sweets are part and parcel of the whole experience. Encouraging physical activity is distinct from discouraging inactivity. Although many patients may dread the thought of setting foot in a gym, they may certainly be dissuaded from sitting in front of the television or playing video games.

Evidence supports regular physical activity as a basis for success in weight loss and weight maintenance programmes. Increased energy expenditure helps to increase lean muscle mass, decrease total body fat and improve overall fat distribution. Half an hour of moderately intense aerobic exercise three to five times per week will lower the risk of heart disease and other obesity related disorders. Physical activity also improves mood and sense of well-being.

The main aim in prescribing any fitness programme is to help the patient adopt regular activities that they can enjoy and sustain safely in the longterm. Aerobic activity, complemented by resistance training and enhanced daily lifestyle activity is recommended but uptake of this will depend on patient motivation, preference and the patient's current exercise regimen. The value of walking should not be forgotten. Research supports this as safe, enjoyable, convenient and effective for most obese individuals. Many walking groups are active in a variety of localities. These should be actively sought and their details made available. The National Institutes of Health have

action : practice points

1. In order to be able to provide information on appropriate weight loss organisations, contact The Obesity Awareness and Solutions Trust for their A-Z help directory. (tel 01279 866 010, website toast-uk.org.uk)
2. Go to the Obesity Resource Information Centre website (ORIC link at www.aso.org.uk) and look at the fact sheet on "what is effective physical activity"
3. Obtain healthy eating materials from your health authority or contact the Food Standards Agency which has a leaflet entitled "enjoy healthy eating" available in ten languages (tel 0845 606 0667, website www.foodstandards.gov.uk)

evaluate

How could your learning have been more effective?
What will you do now and how will you do it?

produced practical guidelines for patients who are keen to undertake physical activity:

1. Emphasise accumulating 30 minutes (or more) of moderate to intense physical activity on most days of the week
1. Select activities that exercise the large muscle groups of the body (eg, walking, swimming etc)
1. Start a new activity at low intensity, gradually working up to moderate intensity
1. Realise benefits from performing activities in two or three sessions rather than one long session
1. Maintain the same intensity for each session
1. Keep an activity diary for progress and motivation
1. If appropriate, incorporate strength training (20 minutes on two days of the week)

Behavioural strategy Often used second line to dieting and exercise, behavioural strategies encourage individuals to be more aware of their eating habits and physical activity. Short-term overeating is usually associated with celebratory occasions. It is when long-term overeating occurs that health risks become apparent. Gluttonous behaviour in a marathon runner or intermediate calorie intake in a "couch potato" may or may not lead to obesity because energy intake is only relevant if paired with an evaluation of energy expenditure. Keeping food and exercise diaries or charts can be useful in working out if there are problems.

Behaviour modification programmes involve changing eating habits. Common tactics are to chew food a defined number of times or to pick up a glass of water between each bite. It has been shown that simply eating regular meals reduces snacking on high calorie foods and impulse eating. It can be argued that cognitive behaviour therapy (CBT) must underlie any strategy used in the management of obesity. This type of psychotherapy combines the behavioural aspects of weight loss with the cognitive aspects. To achieve a long-term change in lifestyle, patients need to alter their way of thinking, beliefs and attitudes. CBT teaches patients how to identify environmental and social triggers for eating and change ways of thinking in order to avoid unhelpful habits. The emphasis is on personal responsibility. Tactics employed include stress management and assertiveness training. Again, education is important.

CBT also explores active and passive overeating. Passive overeating is intake, which although not overtly excessive, gives a net positive balance when measured against physical activity. Active overeating is generally driven by marketing. For example, "all you can eat" buffets and special offers of larger-sized meals encourage people to eat more than they intend. A visit to the United States will reveal large servings and meals with energy and fat contents bearing little relation to healthy requirements. There is evidence that overeating can become addictive and that inappropriate responses to stress may lead to eating disorders such as bulimia, binge eating and night eating.⁸

A prospective study of adults participating in a four-year weight gain prevention programme revealed that up to three-quarters of

the study group maintained recommended behaviour for a median of only 18–40 weeks.⁹ Not surprisingly, those undertaking drastic changes are less successful than those with realistic goals. Motivating patients to change their lifestyle is not easy. Probably the most commonly employed method of motivating patients is goal setting. The following are tips for aiding long-term behavioural change:

1. Explain the two phases of obesity management (weight loss, then weight maintenance) and that weight loss requires energy deficit and weight maintenance requires energy balance
1. Develop a written agreement or plan
1. Identify sources of support (eg, spouse, sibling, friend, health care professionals, slimming groups)
1. Encourage accurate recording of information
1. Reassure that eating a chocolate bar is not a relapse (extreme diets encourage extreme reactive behaviour)
1. Permanent weight loss cannot be achieved quickly (ie, a long-term approach is needed)
1. Support life changes (a healthy diet should not be viewed as temporary)
1. Encourage new ways of thinking about food types
1. Consider cooking methods

Three conditions are required to induce dietary behavioural change: a climate that encourages individuals to think about changing, an environment that is conducive to those changes and nutritional advice that is specific to the individual. Although many health care professionals can attempt to influence all three of these, transport and educational organisations and the food, leisure and sport industries need to make important contributions. This is where the Government should take the lead in co-ordinating strategies that allow health care professionals to have some chance of effecting weight management.

CONCLUSION

Without a doubt, weight loss is achievable, but concordance is most likely to be achieved by shared and open agreement at all levels. However, the reality is that for some individuals, obesity management will in part rely on pharmacotherapy. The next article in this series looks at the role of orlistat and sibutramine in weight loss.

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