Obesity and overweight

The World Health Organization (WHO) defines obesity and overweight as excessive fat accumulation that presents a health risk. Body mass index (BMI) is used in the classification of patients as underweight, normal weight, overweight or obese (see Table I). BMIs are calculated in the same way, irrespective of age or sex, and should be used as a rough guide only, as they do not always correspond to the same degree of overweight or obesity in different individuals. BMI can be calculated by dividing weight in kilograms by the square of the height in metres, i.e. kg/m². For example, the calculation for a person weighing 72 kg and who is 1.72 m tall would be: 72 kg/(1.72 m)² = BMI of 24.3 kg/m².

Obesity is associated with an increased risk of a number of potentially life-threatening conditions such as:

- Diabetes
- Insulin resistance
- Hypertension
- Dyslipidaemia (altered blood fat levels)
- Sleep apnoea (a breathing disorder that occurs during sleep)
- Gallbladder disease
- Coronary artery disease
- Gout
- Cancer
- Impaired fertility
- Anaesthetic risk

A BMI of greater than 45 kg/m² is associated with a reduced life expectancy.

Startling facts

South Africa has a high incidence of overweight (BMI > 25) and obesity (BMI > 30), with more than 29% of men and 56% of women being classified as overweight or obese.

According to the WHO’s projections for 2008, globally, approximately 1.5 billion adults were overweight. Of these, more than 200 million men and nearly 300 million women were obese.

The WHO projects that by 2015, approximately 2.3 billion adults will be overweight, and more than 700 million will be obese.

Globally, nearly 43 million children under the age of five years were overweight in 2010.

What causes obesity?

Obesity and overweight are essentially caused by an imbalance in energy intake and expenditure. Ideally, energy consumed should equate to energy expended. Weight gain occurs over time, as one takes in more kilojoules than one uses. This leads to the storage of excessive amounts as fat.

Other factors implicated in obesity

Genetics

Several genes have been identified and implicated in obesity.
Underlying conditions

Certain hormonal disorders are associated with and may cause overweight and obesity. These include:

- **Hypothyroidism**: Underproduction or lack of thyroid hormones causes lethargy, a slowed metabolism and weight gain.

- **Polycystic ovarian syndrome (PCOS)**: PCOS affects 5-10% of women of childbearing age. These women are often obese, and battle infertility and other health problems due to excessive androgens, i.e. male hormones.

Emotional factors

Some people tend to find comfort in food when they are stressed, nervous or bored.

Medication

Several medicines have been associated with weight gain. These include antidepressants, antipsychotics, anxiolytics, anticonvulsants, antidiabetic agents, and hormones, e.g. corticosteroids and medroxyprogesterone.

Lack of sleep

People who sleep less are more likely to gain weight than people who sleep seven to eight hours a night.

Age

As one gets older, muscle mass decreases and this reduces the rate at which calories are burnt. If energy intake is not adjusted or lowered accordingly, weight gain is likely.

Weight loss

In order to lose weight, the balance of energy intake and energy expenditure needs to be adjusted. A 5-10% weight loss is considered to be excellent, with the following health benefits:

- Visceral fat loss (30%)
- Reduction in mortality (20%)
- Reduction in obesity-related cancers (40%)
- Reduction in fasting glucose levels (50%)
- Reduction in total cholesterol (10%).

Lifestyle recommendations

Healthy eating, reduced food portion size and physical activity are simple ways in which to facilitate or encourage weight loss. Depending on the individual, an energy reduction of 1 050-4 200 kJ per day is required to generate 1 kg per week to 1 kg per month weight loss. Most patients will continue to lose weight for three to six months, after which the weight loss tails off. Not all individuals are able to lose weight through lifestyle modifications alone, and should be referred to their doctor.

Table II: WHO recommendations on age-related levels of physical activity

<table>
<thead>
<tr>
<th>Age group</th>
<th>Physical activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-17 years</td>
<td>At least 60 minutes of moderate activity daily. Most daily physical activities should be aerobic. Children should partake in vigorous activities that strengthen muscles and bones at least three times per week.</td>
</tr>
<tr>
<td>18-64 years</td>
<td>At least 150 minutes of moderate-intensity activity throughout the week. OR At least 75 minutes of vigorous-intensity aerobic physical activity throughout the week. OR An equivalent combination of moderate- and vigorous-intensity activity. Activities should be performed in bouts of at least 10 minutes’ duration. On two or more days a week, individuals should take part in muscle-strengthening activities involving major muscle groups.</td>
</tr>
<tr>
<td>65 years and older</td>
<td>At least 150 minutes of moderate-intensity aerobic physical activity throughout the week. OR At least 75 minutes of vigorous intensity aerobic physical activity throughout the week. OR An equivalent combination of moderate- and vigorous-intensity activity. Activities should be performed in bouts of at least 10 minutes duration. Persons with poor mobility should complete physical activity on three or more days per week in order to enhance balance and prevent falls. On two or more days per week, muscle-strengthening activities involving the major muscle groups should be undertaken. If adults in this age group are unable to complete the recommended level of physical activity due to health conditions, they should be as physically active as their conditions and abilities allow.</td>
</tr>
</tbody>
</table>
Tips for healthy eating:
• Ensure that at least half of all grains (breads, cereals, rice or pasta) are wholegrain.
• Eat more dark-green and orange vegetables, as well as legumes.
• Eat a variety of fruits, and reduce the intake of fruit juices.
• Drink low-fat or fat-free milk.
• Select low-fat or lean meats and poultry. Vary protein sources, and include more fish, nuts, legumes and seeds in the diet.
• Bake, steam or grill whenever possible.
• Reduce the intake of solid fats, such as butter and margarine.

Reduce portion size

Reducing each meal and snack by 420 kJ could result in a 1 200-2 400 kJ energy reduction each day, and a theoretical weight loss of 0.3-0.6 kg per week. However, reducing the energy intake too much (below 3 400 kJ) does not appear to add any benefit, and may be detrimental to long-term weight management.

It has been demonstrated that choosing smaller bowls, plates, utensils, cups and glasses assists in reducing portion size.

Exercise

Physical activity has several benefits, and helps to improve mood, promote better sleep, prevent chronic diseases, and in the loss or maintenance of weight by burning calories.

Obesity and overweight are complex and emotive conditions which should be handled with sensitivity. The pharmacist's assistant may offer support and suggestions with regard to lifestyle modifications.

References