

OBESITY

What is obesity?

Obesity refers to being fat or having excess fat tissue (i.e. more than that required for optimal functioning). Obese individuals are more at risk of developing heart diseases or diabetes mellitus. These diseases are the principal causes of death in an obese individual. The hazards of surgery, pregnancy and child birth are more in obese individuals. Obesity can lead to various respiratory problems (breathing problems) also due to more stress on the respiratory system.

What are the risk factors for obesity?

Obesity is invariably a product of energy imbalance in the body. Energy imbalance refers to imbalance between energy intake and energy output.

If one consumes more food (i.e. take in more energy) and does less physical work (i.e. spend lesser energy) it would result in energy imbalance in the body. There are several factors which favour the development of such an imbalance in the body.

Following are the risk factors for obesity:

Over-eating: If one is eating more food in general or consuming energy rich foods like butter, cakes, pastries, jam, jellies, wafers and other rich snacks and desserts, one is likely to gain weight. Some people prefer to eat less during the meal time, but keep on munching snacks in between meals. Remember that total intake of calories goes up in this way and it increases the possibility of weight gain.

Sedentary lifestyle: Besides food intake another factor which influences the energy balance of the body is activity pattern. In urban areas, especially the affluent or rich class people tend to have a sedentary life-style. They are mostly involved in some kind of mental work and physical activity is less.

Housewives are equipped with electric gadgets like vacuum cleaner, mixer, washing machine, etc. to make work simpler for them. Such people tend to spend or use very little of calories they have consumed as part of food. The result is energy imbalance and consequent weight gain.

Psychological factors: Some people tend to eat more if they are tense or bored or lonely. Such conditions make food as the focus of their attention and a means or outlet for release of tension and boredom. Such people also have a tendency to gain weight and become obese.

Genetic influence: Obese parents do tend to have obese children. This fact has been brought into focus by many research investigations.

What are the principles of Dietary Management of Obesity?

The dietary management of obesity includes:

1) PRINCIPLES OF TREATMENT OF OBESITY: The main principles are:

- Slow and gradual reduction of body weight till it is closer to ideal body weight
- Maintenance of weight loss achieved
- Prevention of complications like heart disease or diabetes mellitus.

2) THE MODIFIED NUTRITIONAL NEEDS: The modifications needed in the amount of energy, protein, carbohydrate, fat, vitamins and minerals for obese individuals.

Energy: Obesity is the result of energy imbalance in the body. So modifications in energy (calorie) needs are important. This modification in energy is not the same in every individual. One has to cut down 500 to 1000 Kcal from a day's diet depending on the individual requirements. In general, a restriction of 500 Kcal per day results in a loss of about 450 g (1 pound) a week and 1000 Kcal leads to a loss of about 900 g (or 2 pounds) a week. It has been found that a daily intake of 1400-1600 Kcal results in satisfactory weight reduction. However, it is not the same for every individual. The extent of energy reduction can go up to 1000 to 1200 Kcal depending upon individual requirements.

Protein: Care should be taken to include enough protein-rich foods in the diet. Around 1 g protein/kg body weight can be given.

Fat: Total fat intake in the form of visible fats needs to be restricted. Saturated fats and cholesterol-rich foods should be avoided (as obese individuals are more at risk of developing heart disease).

Vitamins and minerals: Diet should provide vitamin and minerals in adequate amounts according to recommended dietary intakes.

3) DIETARY MODIFICATIONS: Following points are to be taken into consideration for dietary management of obesity:

i) **Restrict total food intake:**

- Energy restriction is not an easy task and one cannot achieve miracles by reducing one's intake by 1000 to 1200 Kcal in a day. It has to be slow and gradual. Start reducing 200-300 Kcal per day and slowly more restriction can be achieved.
- Do not start energy restriction with main meals. First cut down on the extra tit **bits** one tends to eat in between. Give smaller meals at regular intervals. Don't d **let** the person miss a meal. Otherwise one will tend to eat a lot more in the next meal. Do not eat while watching television or reading.

ii) **Cut down intake of fat and fat-rich foods:** .Restrict the intake of visible fat. Give visible fats in the form of cooking oils. Avoid giving ghee, butter of-hydrogenated fats-they have more of saturated fats and cholesterol and tend to increase the possibility of heart diseases or diabetes in obese individuals. Avoid giving fat-rich foods like meats, cakes, pastries, fried snacks, nuts and oilseeds.

iii) **Give more of protein rich foods:** Milk (toned milk or whole milk from which cream has ken removed), pulses, lean meats, chicken, and fish.

iv) **Give more of leafy vegetables and yellow and orange fruits:** They provide the basic protective and regulatory nutrients.

v) **Give more fibre- rich foods:** Whole cereals, whole pulses, fibrous fruits and vegetables. Fibrous foods have more satiety value and hence tend to satisfy hunger and at the same time provide less energy (calories).

What is childhood obesity?

Childhood obesity is one of the most serious public health challenges of the 21st century. The prevalence has increased at an alarming rate. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non communicable diseases like diabetes and cardiovascular diseases at a younger age. Overweight and obesity, as well as their related diseases, are largely preventable. Prevention of childhood obesity therefore needs high priority.

Classification of Obesity for Children under 5 years

Z-Score	Weight for Height/Length	BMI for Age
Above 3	Obese	Obese
Above 2	Over Weight	Over Weight
Above 1	Possible Risk of Overweight	Possible Risk of Overweight

Growth reference 5-19 years BMI-for-age (5-19 years) Cut-offs

Overweight	> +1SD (equivalent to BMI 25 kg/m ² at 19 years)
Obesity	>+2SD (equivalent to BMI 30 kg/m ² at 19 years)
Thinness	<-2SD
Severe thinness	<-3SD

Source: WHO: 2007 Reference

SOURCE: UNIT 21- DIETARY MANAGEMENT OF OBESITY, HEART DISEASE AND DIABETES MELLITUS
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