**OVERWEIGHT AND OBESITY**

Individuals have different body shapes and sizes depending on their age, gender, genetic background, state of health, body types.

**Ectomorphs** have a body type that is slender; **mesomorphs** have prominent muscle and bone development while **endomorphs** have round physique with accumulation of fat. Dietary intake and physical inactivity influence how the body type is expressed.

Overweight occurs as a result of an imbalance between food consumed and physical activity. Obesity is a complex issue related to lifestyle, environment, and genes. Overweightcan also be defined as a state in which the weight exceeds a standard based on height while obesity is a condition of excessive fatness, either generalized or localized.

Overweight and obesity usually parallel each other, but it is possible to be overweight according

to standards but not be “overfat” or obese. It is also possible to have excessive fatness and yet not be overweight.

Identification of overweight and obesity are identified through Body Mass Index (BMI) and skin fold thickness

**CLASSIFICATION OF OVER-WEIGHT AND OBESITY**

Underweight: BMI of <18.5

Normal: BMI of 18.5-24.9

Overweight: BMI of ≥25

Pre-obese: BMI of 25-29.9

Obese Class 1: BMI of 30.0-34.9

Obese Class 2: BMI of 35.0-35.9

Obese Class 3: BMI of ≥ 40

**RISK FACTORS**

1. Genetics: Many hormonal and neural factors involved in weight regulation are determined by heredity and genetics.Nutritional genomicsis the study of the interactions between dietary components and the instructions in a cell or genome, and the resulting changes in metabolites that affect gene expression. Nutritional or lifestyle choices can activate or deactivate these obesity-triggering genes.
2. Inadequate Physical Activity

Lack of exercise and a sedentary lifestyle, compounded by chronic overeating, are also causes of weight gain. The sedentary nature of society is a factor in the growing problem of obesity. Fewer people are exercising, and more time is being spent in low-energy, screen-watching activities such as watching television or movies, using a computer or smartphone, playing video games, and sitting in cars driving to work or events.

1. Obesogens

Obesogens are chemical compounds foreign to the body that act to disrupt the normal metabolism of lipids, ultimately resulting in fatness and obesity. Obesogens can be called “endocrine disruptors” in that they alter lipid homeostasis and fat storage, change metabolic set points, disrupt energy balance, or modify the regulation of satiety and appetite to promote accumulation of fat and obesity. Examples of suspected obesogens in the environment and food supply are bisphenol A (BPA) and phthalates, which are found in many plastics used in food packaging and which migrate into foods processed or stored.

1. Medication Usage and Weight Gain

Although weight gain can be due to disease, therapists always should consider the possibility that the patient’s medication may be contributing. This often is seen with diabetes medications, and psychotropic, antidepressant, steroid, and antihypertensive medications. The use of such medications must be considered carefully, and alternative ones with less deleterious effects selected when possible.

1. Sleep and Stress

Shortened sleep alters the endocrine regulation of hunger and appetite. Hormones that affect appetite take over and may promote excessive energy intake. Thus, recurrent sleep deprivation can modify the amount, composition, and distribution of food intake and may contribute to the obesity epidemic. It is estimated that more than 50 million globally suffer from sleep deprivation. Others may have shift work or exposure to bright light at night enhancing the prevalence of adiposity

Stress is another factor. The cortisol hormone is released when an individual is under stress, and stimulates insulin release to maintain blood glucose levels in the “fight-or-flight” response. Thus, an increase in appetite occurs. Chronic stress with constantly elevated cortisol levels can also lead to appetite changes. Cortisol levels are typically high in the early morning and low around midnight.

1. Taste, Satiety and Portion Sizes

Food and its taste elements evoke pleasure responses. The endless variety of food available at any time at a reasonable cost can contribute to higher calorie intake; people eat more when offered a variety of choices than when a single food is available. Normally, as foods are consumed, they become less desirable; this phenomenon is known as sensory-specific satiety. Overriding this principle is the “all-you-can-eat buffet,” in which the diner reaches satiety for one food but has many choices for the “next course.” Although sensory-specific satiety can promote the intake of a varied and nutritionally balanced diet, it can also lead to overconsumption. Overeating is partly the result of excessive portion sizes that are now accepted as normal. The portions and calories that restaurants and fast-food outlets offer in one meal often exceed a person’s energy needs for the entire day. Frequent intake of energy-dense food also can be problematic.

**Causes of overweight and obesity**

* Reduced physical activity
* Unhealthy eating habits such as high fat diet, intake of diet rich in saturated fatty acids, low intake of dietary fibres
* Increasing urbanization
* Westernisation

**Consequences of overweight and obesity**

* Physiological: They increase the risk of developing many chronic diseases. Prominent among this is type 2 diabetes mellitus in children and adolescents. The complications of this disease include blindness, heart diseases, renal failure and amputation of limbs. Other diseases include gall bladder, heart disease, high blood pressure, respiratory problems, reproductive problems and some forms of cancer.
* Overweight and obesity reduce life expectancy and shorten life span by 3-7 years.
* They increase the cost of health care. Frequency of hospital visits is increased with increasing body weight. Use of drugs to treat complications associated with overweight and obesity also increase.
* Psychological: Discrimination in work places and schools. Over-weight and obese children are being teased and discriminated. They are being viewed as lazy overeaters.

**Strategies to tackle overweight and obesity**

1. Be physically active : Overweight and obese persons should be involved in regular exercise
2. Weight control
3. Reduce portion size
4. They should take low fat diet. In this type of diet, food rich in fats are avoided and so are fried foods, sausages, margarine, vegetable oil, cream and fatty meat, fish or poultry with skin.
5. They should eat complex carbohydrates instead of refined ones and the quantities should be specified.
6. They should increase intake of fruits and vegetables which are good sources of dietary fibres on daily basis
7. They should increase reasonable amount of fluids