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## Nutrition and obesity management

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### Abstract

Obesity may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size or an increase in fat cell number or a combination of both. Obesity is often expressed in terms of body mass index (BMI). Overweight is usually due to obesity but can arise from other causes such as abnormal muscle development or fluid retention. Causes of Obesity, these are the causes of obesity i.e. age, sex, genetic factors, physical inactivity, eating habits, socio-economical, psychological, alcohol, family tendency, education.

**Keywords:** Nutrition, obesity, physical inactivity, socio-economical, psychological

### Introduction

“Nutrition is the science that deals with all the various factors of which food is composed and the way in which proper nourishment is brought about” carbohydrates: a source of energy. Protein: a source of growth and repair. Fats: a source of energy and contain fat soluble vitamins. Vitamins: required in very small quantities to keep body healthy. Mineral salts: required for healthy teeth, bones, muscles etc.

Obesity is the perhaps most prevalent in both developed and developing countries, and effecting children as well as adults. It is now so common that it is replacing the more traditional public health concerns. It is one of the most significant contributors to ill health. Obesity may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size or an increase in fat cell number or a combination of both.

**Body Composition:** “The relative proportion of fat-free mass to fat mass in the body. Fat-free mass is composed of muscle, bone, organs, and water, whereas fat is the underlying adipose tissue.” Body composition is used to describe the percentage of fat, bone and muscle in human bodies. Because muscular tissue takes up less space in our body than fat tissue, our body composition, as well as our weight determines leanness. Two people at the same height and same body weight may look completely different from each other because they have a different body composition.

### Causes of Obesity

**Age:** Obesity can occur at any age, and generally increase with age. Infants with excessive weight gain have an increased incidence of obesity in later life. It has been well established that most adipose cell are formed early in life and the obese infant lays down more of these cells than the normal infant.

**Sex:** Woman generally have higher rate of obesity than man, although men may have higher rates of overweight. It has been claimed that woman’s BMI increased with successive pregnancy.

**Genetic factors:** There is a genetic component in the etiology of obesity. The profile of fat distribution is also characterized by a significant heritability level of the order of about 50 percent of the total human variation.

**Physical Inactivity:** There is convincing evidence that regular physical activity is protective against unhealthy weight gain.

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Whereas sedentary lifestyle particularly sedentary occupation and inactive recreation such as watching television promote

**Socio-economic status:** The relationship of obesity to social class has been studied in some detail. There is a clear inverse relationship between socio-economic status and obesity.

**Eating Habits:** The composition of the diet, the periodicity with which it is eaten and amount of energy derived from it are all relevant to the etiology of obesity.

**Assessment of Obesity:** Before we consider assessment of obesity, it will be useful to first look at body composition as under;

- (a) The active mass (muscle, liver, heart etc)
- (b) The fatty mass (fat)
- (c) The extracellular fluid (blood, lymph etc)
- (d) The connective tissue (skin, bones, connective tissue)

Although obesity can easily be identified at first sight, a precise assessment requires measurement and reference standards. The most widely used criteria are:

1. Body weight: Body weight, though not an accurate measure of excess fat, is a widely used Index.
  - (a) Body mass Index  
= weight (kg)/Height<sup>2</sup>
  - (b) Ponderal index  
Height/cube root of body weight (kg)

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