

## Obesity: A Call for Health Consciousness

<sup>1</sup> Pardeep Kumar, <sup>2</sup> Parul

<sup>1</sup> Assistant Professor, Jat College, Rohtak, Haryana, India

<sup>2</sup> Junior Lecturer, Shri Baba Mastnath Public Sr. Sec. School, Rohtak, Haryana, India

### Abstract

This paper is highlighted to health consciousness of people. Fitness means being in good physical situation, being healthy, having more power and better sleep samples. A person who is fit is also capable to carry out responsibilities more easily. Fitness may help avert assured diseases such as high blood pressure, diabetes, stroke, cancer, and heart disease. You do not have to be an athlete to be fit. A brisk half-hour walk every day can help you reach a good level of fitness. Staying active and fit can also help you manage your weight and reduce the risk of obesity. Fat is a normal component of the human body that is stored in adipose tissue. Obesity can be defined as a condition of excessive fat accumulation to the extent that health and well-being are affected. Body fat can be determined in vivo in different ways, using rather accurate laboratory techniques or using simple estimation techniques that can also be applied in field conditions. Obesity results from energy imbalance: too many calories in, too few calories burned. A number of factors influence how many calories people burn each day, among them, age, body size, and genes. But the most variable factor and the most easily modified is the amount of activity people get each day. Keeping active can help people stay at a healthy weight or lose weight. It can also lower the risk of heart disease, diabetes, stroke, high blood pressure, osteoporosis, and certain cancers, as well as reduce stress and boost mood. Inactive (sedentary) lifestyles do just the opposite. This Paper defines physical activity and explains how it is measured, reviews physical activity trends, and discusses the role of physical activity in weight control.

**Keywords:** Obesity, Fitness, Health Awareness, BMI, Physical Activity.

### Introduction

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health, leading to reduced life expectancy and/or increased health problems. In Western countries, people are considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight by the square of the person's height, is over 30 kg/m<sup>2</sup>, with the range 25–30 kg/m<sup>2</sup> defined as overweight. Some East Asian countries use stricter criteria. Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications, or psychiatric illness. Evidence to support the view that some obese people eat little yet gain weight due to a slow metabolism is limited. On average, obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.

Dieting and exercising are the main treatments for obesity. Diet quality can be improved by reducing the consumption of energy-dense foods, such as those high in fat and sugars, and by increasing the intake of dietary fiber. With a suitable diet, anti-obesity drugs may be taken to reduce appetite or decrease fat absorption. If diet, exercise, and medication are not effective, a gastric balloon may assist with weight loss, or surgery may be performed to reduce stomach volume and/or bowel length, leading to feeling full earlier and a reduced ability to absorb nutrients from food.

Obesity is a leading preventable cause of death worldwide, with increasing rates in adults and children. Authorities view it as one of the most serious public health problems of the 21st century. Obesity is stigmatized in much of the modern world (particularly in the Western world), though it was widely seen as a symbol of wealth and fertility at other times in history and still is in some parts of the world. In 2013, the American Medical Association classified obesity as a disease.

### Body Mass Index (BMI)

The body mass index (BMI) is a statistical measurement derived from your height and weight. Although it is considered to be a useful way to estimate healthy body weight, it does not measure the percentage of body fat. The BMI measurement can sometimes be misleading - a muscleman may have a high BMI but have much less fat than an unfit person whose BMI is lower. However, in general, the BMI measurement can be a useful indicator for the 'average person'.

### Causes

1) **Consuming too many calories:** These days, people are eating much more food than in previous generations. This used to be the case just in developed nations - however, the trend has spread worldwide. Most people would expect this increase in calories to consist of fat - not so! Most of the increased food consumption has consisted of carbohydrates (sugars). Increased consumption of sweetened drinks has contributed significantly to the raised carbohydrate intake of most young American adults over the last three decades. The consumption of fast-foods has tripled over the same period.

2) **Leading a sedentary lifestyle:** With the arrival of televisions, computers, video games, remote controls, washing machines, dish washers and other modern convenience devices, people are commonly are leading a much more sedentary lifestyle compared to their parents and grandparents. Some decades ago shopping consisted of walking down the road to the high street where one could find the grocers, bakers, banks, etc. As large out-of-town supermarkets and shopping malls started to appear, people moved from using their feet to driving their cars to get their provisions. In some countries, dependence on the car has become so strong that many people will drive even if their destination is only half-a-mile away. The less you move around the fewer calories you burn. However, this is not only a question of calories. Physical activity has an effect on how your hormones work, and hormones have an effect on how your body deals with food. Several studies have shown that physical activity has a beneficial effect on your insulin levels - keeping them stable. Unstable insulin levels are closely associated with weight gain.

3) **Not sleeping enough:** Research has suggested that if you do not sleep enough your risk of becoming obese doubles. Research was carried out at Warwick Medical School at the University of Warwick. The risk applies to both adults and children. Professor Francesco Cappuccio and team reviewed evidence in over 28,000 children and 15,000 adults. Their evidence clearly showed that sleep deprivation significantly increased obesity risk in both groups.

**Professor Cappuccio said:** "The 'epidemic' of obesity is paralleled by a 'silent epidemic' of reduced sleep duration with short sleep duration linked to increased risk of obesity both in adults and in children. These trends are detectable in adults as well as in children as young as 5 years." Professor Cappuccio explains that sleep deprivation may lead to obesity through increased appetite as a result of hormonal changes. If you do not sleep enough you produce Ghrelin, a hormone that stimulates appetite. Lack of sleep also results in your body producing less Leptin, a hormone that suppresses appetite.

4) **Endocrine disruptors, such as some foods that interfere with lipid metabolism:** Fructose is mainly metabolized in the liver, the target organ of the metabolic alterations caused by the consumption of this sugar. In this study, rats receiving fructose-containing beverages presented pathology similar to metabolic syndrome, which in the short term causes lipid accumulation (hypertriglyceridemia) and fatty liver, and eventually leads to hypertension, resistance to insulin, diabetes and obesity. Poorly balanced diets and the lack of physical exercise are key factors in the increase of obesity and other metabolic diseases in modern societies. In epidemiological studies in humans, the effect of the intake of fructose-sweetened beverages also seems to be more intense in women.

**Fructose effect on the brain may promote obesity -** researchers from Yale University School of Medicine compared the effects of fructose and glucose on the brain

with MRI scans and found that high fructose diets may be behind the current obesity epidemic.

5) **Lower rates of smoking (smoking suppresses appetite):** According to the National Institutes of Health (NIH) "Not everyone gains weight when they stop smoking. Among people who do, the average weight gain is between 6 and 8 pounds. Roughly 10 percent of people who stop smoking gain a large amount of weight - 30 pounds or more."

6) **Medications that make patients put on weight:** According to an article in Annals of Pharmacotherapy, some medications cause weight gain. "Clinically significant weight gain is associated with some commonly prescribed medicines. There is wide inter individual variation in response and variation of the degree of weight gain within drug classes. Where possible, alternative therapy should be selected, especially for individuals predisposed is to overweight and obesity."

**Types of Obesity**

1) **Acc. To BMI:** Body mass index or BMI is a simple and widely used method for estimating body fat mass. BMI was developed in the 19th century by the Belgian statistician and anthropometrist Adolphe Quetelet. BMI is an accurate reflection of body fat percentage in the majority of the adult population. It however is less accurate in people such as body builders and pregnant women. A formula combining BMI, age, and gender can be used to estimate a person's body fat percentage to an accuracy of 4% An alternative method, body volume index (BVI), is being developed in an effort to better take into account different body shapes.

BMI	Classification
< 18.5	underweight
18.5 – 24.9	normal weight
25.0 – 29.9	overweight
30.0 – 34.9	class I obesity
35.0 – 39.9	class II obesity
= 40.0	class III obesity

2) **Acc. To Body Shape:**

- a. **Apple shape**
- b. **Pear shape**

Apple and Pear are terms to describe the shape of a person's body with regard to where they store fat. Pears tend to store fat below their waists, usually on their hips and thighs. Apples store fat above their waists, around the mid-section.

- a. **Apple Shape:** The shoulders, face, arms, neck, chest and upper portion of the abdomen (stomach) are bloated. In this type, the excess flesh is less likely to reduce especially in female than males. This type of obesity is a major risk for heart damage and heart disease due to high cholesterol.
- b. **Pear Shape:** In this type the lower part of the body has the extra flesh. This type of obesity is also common to both sexes though females are more affected. The flesh is somewhat flabby in the abdomen, thighs, buttocks and legs.

- c. **The Third Type:** Besides apple and pear type, there is one more type of obesity. Some persons neither belong to apple or to pear category. Their whole body from head to toe looks like a barrel. Their gait is more to rolling rather than walking. The fat tissues in their body hinder the movement of all the internal organs and consequently affect their brisk functioning.

### 3) Acc. To Fat Distribution

**Fat was similar to property business:** it's all about location. Different fat distribution, are also different types of obesity. By knowing the type of obesity, we are also able to determine the risk of disease and the type of exercise that right.

- a. Belted Shape Obesity
- b. Great Trochanter Shape Obesity
- c. Lower Limb Obesity

### 4) According to Body tissues nutrition

- a. Fat Hoarding Type
- b. Muscle Shape
- c. Edema Shape
- d. Mixed Shape

### 5) In General

- a. Simple Obesity
- b. Secondary Obesity

### Overweight and Obesity-Related Health Problems

- 1) **Coronary Heart Disease:** As your body mass index rises, so does your risk for coronary heart disease (CHD). CHD is a condition in which a waxy substance called plaque (plak) builds up inside the coronary arteries. These arteries supply oxygen-rich blood to your heart.

Plaque can narrow or block the coronary arteries and reduce blood flow to the heart muscle. This can cause angina (an-JI-nuh or AN-juh-nuh) or a heart attack. (Angina is chest pain or discomfort.)

Obesity also can lead to heart failure. This is a serious condition in which your heart can't pump enough blood to meet your body's needs.

- 2) **High Blood Pressure:** Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps blood. If this pressure rises and stays high over time, it can damage the body in many ways. Your chances of having high blood pressure are greater if you're overweight or obese.

- 3) **Stroke:** Being overweight or obese can lead to a buildup of plaque in your arteries. Eventually, an area of plaque can rupture, causing a blood clot to form. If the clot is close to your brain, it can block the flow of blood and oxygen to your brain and cause a stroke. The risk of having a stroke rises as BMI increases.

- 4) **Type 2 Diabetes:** Diabetes is a disease in which the body's blood glucose, or blood sugar, level is too high. Normally, the body breaks down food into glucose and then carries it to cells throughout the body. The cells use a hormone called insulin to turn the glucose into energy. In type 2 diabetes, the body's cells don't use insulin properly. At first, the body reacts by making more insulin. Over

time, however, the body can't make enough insulin to control its blood sugar level. Diabetes is a leading cause of early death, CHD, stroke, kidney disease, and blindness. Most people who have type 2 diabetes are overweight.

- 5) **Abnormal Blood Fats:** If you're overweight or obese, you're at increased risk of having abnormal levels of blood fats. These include high levels of triglycerides and LDL ("bad") cholesterol and low levels of HDL ("good") cholesterol. Abnormal levels of these blood fats are a risk factor for CHD. For more information about triglycerides and LDL and HDL cholesterol, go to the Health Topics High Blood Cholesterol article.

- 6) **Metabolic Syndrome:** Metabolic syndrome is the name for a group of risk factors that raises your risk for heart disease and other health problems, such as diabetes and stroke. You can develop any one of these risk factors by itself, but they tend to occur together. A diagnosis of metabolic syndrome is made if you have at least three of the following risk factors:

- a. A large waistline. This is called abdominal obesity or "having an apple shape." Having extra fat in the waist area is a greater risk factor for CHD than having extra fat in other parts of the body, such as on the hips.
- b. A higher than normal triglyceride level (or you're on medicine to treat high triglycerides).
- c. A lower than normal HDL cholesterol level (or you're on medicine to treat low HDL cholesterol).
- d. Higher than normal blood pressure (or you're on medicine to treat high blood pressure).
- e. Higher than normal fasting blood sugar (or you're on medicine to treat diabetes).

- 7) **Cancer:** Being overweight or obese raises your risk for colon, breast, endometrial, and gallbladder cancers.

- 8) **Osteoarthritis:** Osteoarthritis is a common joint problem of the knees, hips, and lower back. The condition occurs if the tissue that protects the joints wears away. Extra weight can put more pressure and wear on joints, causing pain.

- 9) **Sleep Apnea:** Sleep apnea is a common disorder in which you have one or more pauses in breathing or shallow breaths while you sleep. A person who has sleep apnea may have more fat stored around the neck. This can narrow the airway, making it hard to breathe.

- 10) **Obesity Hypoventilation Syndrome:** Obesity hypoventilation syndrome (OHS) is a breathing disorder that affects some obese people. In OHS, poor breathing results in too much carbon dioxide (hypoventilation) and too little oxygen in the blood (hypoxemia). OHS can lead to serious health problems and may even cause death.

### Conclusion

Hopefully after this activity you are more aware of the effects of obesity. Many people do not realize how damaging obesity can be to the body and for your overall health. Obesity is something that is increasingly on the rise today and will continue to rise unless we do something about it like informing people of how bad it really is and encouraging people to live a

health-enhancing lifestyle. A healthy diet and exercising two to three times a week is key to not becoming obese. Let's change the trend of obesity by living healthy lives and building towards a healthy.

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