WELLNESS YOGA INSTITUTE

Understanding Obesity

A Science-Based Health Education Article

Introduction

Obesity is a complex, chronic health condition involving excessive accumulation of body fat that may negatively affect health.

It is not simply a matter of appearance or willpower. Body weight is influenced by several factors, including dietary habits, physical activity, genetics, metabolism, sleep, stress and environmental conditions.

Obesity can increase the risk of various chronic diseases and may affect overall quality of life.

Understanding the causes, health risks and scientific approaches to weight management is essential for maintaining better health.

What Is Obesity?

Obesity is a medical condition characterised by excessive accumulation of body fat that may negatively affect health.

Body Mass Index (BMI) is commonly used as a screening tool to identify overweight and obesity in adults.

BMI Formula

BMI = Body Weight (kg) ÷ Height (m)²

Common Adult BMI Categories

- Below 18.5 – Underweight
- 18.5–24.9 – Normal weight
- 25.0–29.9 – Overweight
- 30.0 or above – Obesity

> ***Important Note:*** *BMI is a screening tool, not a direct measurement of body fat. Waist circumference, body composition and other health indicators are also important. BMI risk thresholds may differ for Asian populations, including Indians.*

Causes of Obesity

Obesity develops due to a combination of dietary, biological, behavioural and environmental factors.

1. Excessive Calorie Intake

Regular consumption of energy-dense foods, sugary drinks and large food portions may increase total calorie intake.

2. Low Physical Activity

A sedentary lifestyle reduces daily energy expenditure and may contribute to gradual weight gain.

3. Genetic Factors

Genetic variations can influence appetite, metabolism, fat storage and body-weight regulation.

4. Hormonal and Metabolic Factors

Hormonal changes and certain medical conditions may influence appetite, energy balance and fat distribution.

5. Poor Sleep and Chronic Stress

Insufficient sleep and long-term stress may affect appetite-regulating hormones and eating behaviour.

6. Environmental Factors

Food availability, lifestyle patterns, working conditions and limited opportunities for physical activity may contribute to obesity.

Energy Balance and Fat Storage

Obesity is closely related to long-term energy imbalance. When energy intake consistently exceeds energy expenditure, the body may store the excess energy as fat.

1. Glucose Utilization

After carbohydrate consumption, glucose enters the bloodstream. Some glucose is immediately used by cells to produce energy.

2. Glycogen Storage

Excess glucose can be stored as glycogen in the liver and muscles. This stored glycogen serves as an energy reserve.

3. Glycogen Storage Capacity

When glycogen stores are replenished, additional carbohydrate intake may contribute to fat synthesis, particularly when energy intake continues to exceed energy requirements.

4. De Novo Lipogenesis

The liver can convert excess carbohydrate-derived energy into fatty acids through a metabolic process called De Novo Lipogenesis.

5. Triglyceride Formation and Fat Storage

Fatty acids can be converted into triglycerides and stored in adipose tissue. Over time, sustained excess energy intake may contribute to increased body fat and weight gain.

Health Risks Associated with Obesity

Obesity is associated with an increased risk of several chronic diseases and health complications.

1. Type 2 Diabetes

Excess body fat, particularly abdominal fat, may contribute to insulin resistance and increase the risk of Type 2 Diabetes.

2. Cardiovascular Diseases

Obesity may increase the risk of high blood pressure, abnormal cholesterol levels, heart disease and stroke.

3. Fatty Liver Disease

Excess fat accumulation in the liver may lead to metabolic dysfunction-associated steatotic liver disease (MASLD).

4. Joint Problems

Excess body weight places additional stress on weight-bearing joints, increasing the risk of osteoarthritis.

5. Sleep Apnoea

Obesity may increase the risk of obstructive sleep apnoea, a condition that causes repeated interruptions in breathing during sleep.

6. Mental Health Problems

Obesity may be associated with psychological difficulties, including depression, anxiety and reduced self-esteem. Weight stigma can also affect mental well-being.

7. Certain Cancers

Obesity is associated with an increased risk of several types of cancer.

> ***Note:*** *Health risks vary from person to person and depend on several factors, including body fat distribution and overall health.*

Scientific Weight Management

Effective weight management requires a balanced approach combining nutrition, physical activity, behavioural changes and healthy lifestyle habits.

1. Balanced Nutrition

A balanced diet should include vegetables, fruits, whole grains, pulses and adequate protein. Portion control can help manage daily calorie intake.

2. Regular Physical Activity

Regular exercise, walking, cycling and other physical activities help increase energy expenditure and improve overall health.

3. Yoga and Mind-Body Practices

Yoga, pranayama and meditation may support physical activity, stress management, relaxation and healthy lifestyle habits.

4. Healthy Sleep Habits

Adequate and regular sleep supports metabolic health and helps maintain healthy appetite regulation.

5. Behavioural Changes

Mindful eating, regular meal patterns, self-monitoring and gradual lifestyle modifications can support long-term weight management.

6. Professional Guidance

A qualified healthcare professional or dietitian can help develop an individualised and safe weight-management plan.

Conclusion

Obesity is a complex health condition influenced by multiple factors, including nutrition, physical activity, genetics, metabolism and lifestyle habits.

Understanding energy balance, body fat storage and the health risks associated with obesity is important for making informed health decisions.

A balanced diet, regular physical activity, yoga, adequate sleep and sustainable lifestyle changes can support healthy weight management.

Remember that effective weight management is not about rapid weight loss but about improving overall health and maintaining healthy habits over time.

Health Education Message

Small, consistent lifestyle changes can make a meaningful difference to long-term health.

This article is intended for general health education. It does not replace individual medical advice, diagnosis or treatment.

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