

**A Brief Description of Obesity**

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Correspondance Author Simran Samdani**Conflicts of interest:** None**Introduction**

It is defines ad having an unhealthy amount of body fat. It's a condition in which the natural energy reserve stored in the fatty tissues of humans and other mammals is increased to a point where it is associated with certain health conditions or increased mortality. It is both an individual clinic condition and a serious public health problem.

Keywords: Gynoid, Obesity, Hyperinsulinemia, Genetics.**Body Mass Index (Bmi)**

Body Mass Index is the most simple and useful index to estimate body fat. It is calculated as follows:

$$\text{BMI} = \text{Weight in kilogram} / \text{Square of height in meters}$$
BMI reference

- BMI <18.5 = Underweight
- BMI 18.5-24.9 = Normal weight
- BMI 25-29.9 = Overweight
- BMI 30-39.9 = Obese
- BMI >40 = severely obese

Causes Of Obesity

- Overeating
- Genetic disorders
- Underlying Illness (such as hypothyroidism)
- Eating disorder (Binge eating disorder)
- Certain medications (such as anti psychotics)
- Sedentary lifestyle
- A high glycemic diet
- Insufficient sleep
- Stress

- Sudden smoking cessation
- Weight cycling – repeated attempts to do dieting to lose weight

Other Causes**Endocrine Diseases**

- Pituitary** Puberty adiposity, Pregnancy, Climacteric both males and females.
- Thyroid** Hypothyroidism.
- Adrenal Cortex** Cushing's syndrome.
- Gonads** Polycystic ovarian syndrome, Enuchoidism.
- Pancreas** Chronic hypoglycemia associated with adiposity.
- Hypothalamus** Encephalitis, Meningo-encephalitis, Cerebral injuries.

Types of Obesity

The fat distribution in body is identified among the two types of obesity: ANDROID and GYNOID

Android

It is likened to the shape of apple. The shoulders, face, arms, neck, chest and upper portion of the abdomen are bloated. The stomach gives a stiff appearance as well as the arms, shoulders and breasts. There will be a protruding chest because of the bulk in the stomach. The lower portion of the body- the hips, thighs and legs are thinner beyond proportion in comparison with the upper part. Heart, liver. Lungs and kidney are the most affected.

This type of obesity is more found in males than in females. Females who are under hormone treatment for

their menstrual abnormalities or after child birth are more prone. It occurs in females around menopause due to disturbance in thyroid gland.

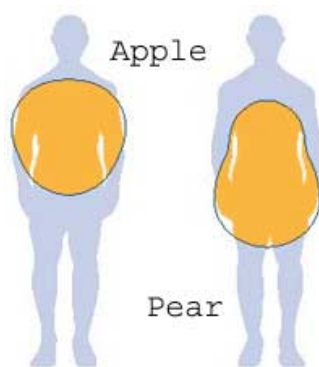
Gynoid

It is similar to pears. In this type the lower part of the body has the extra flesh.

It is common to both sexes though females are more affected. The flesh is flabby in the abdomen, thighs, buttocks and legs. The face and neck mostly give a normal appearance. As these persons grow old the whole figure assumes a stooping posture and the spine is never erect due to the heavy hips and thighs. Kidney, uterus, intestines, bladder and bowels are affected mostly. Exercises or dieting does not appreciably help the patient in reducing weight.

The Third Type

Some people do not belong to any of the above i.e. they are neither android neither gynoid. Their whole body from head to toe looks like a barrel. Their gait is more rolling rather than walking. The fat tissues in their body hinder the movement of all the internal organs and consequently affect their brisk functioning. Exercise is difficult for such patients due to the enormous size of the body.



Childhood Obesity

Children with a BMI at or above the 24.9 and less than 29.9 are considered overweight, whereas children with BMI above 29.9 have obesity.

Childhood obesity has immediate and long terms impacts on physical, social and emotional health as:

- Children with obesity are at higher risk for having other chronic health conditions and diseases that impact physical health such as asthma, sleep apnea, bone and joint problems and risk factors for heart disease.
- In the long term. Childhood obesity also is associated with having obesity as an adult which is linked to serious conditions and diseases.

Types Of Obesity In Children

Developmental Obesity

It begins in the early years of a child's life and continues steadily over the adult year. The foundation has already set in by the time child is about four years old. The cells become saturated with fat and as the child grow older more and more fat accumulates in the body. Muscle and bone mass also increases since the body has to carry additional weight. Such children usually grow tall, look older for their age and are obese right through infancy even up to their adult years.

Reactionary Obesity

It develops due to periods of emotional stress in a child's life. During such stress periods the child may overeat resulting in increase in weight. However since these periods are intermittent the weight also reflects up and down.

Causes

Obesogenic Environment is the medical term used for mixture of elements causing childhood obesity.

The greatest risk factor for child obesity is the obesity of both parents. This may be reflected by family's environment and genetics, psychological factors and child's body type. In only 5 to 10 percent cases endocrine, syndromic or CNS causes are implicated.

The causes of childhood obesity may be following:

Genetics

It is often a result of an interplay between many genetic and environment factors. Having two copies of the allele called FTO increases the risk of both obesity and diabetes. Also obesity can also be the result of rare genetic conditions often present in childhood:

- Prader-Willi syndrome
- Bardet-Biedl syndrome
- Klinefelter syndrome
- Turner syndromes
- Congenital Leptin deficiency
- Melanocortin receptor mutations.

Family practices

Family practices have significantly changed and several of these practices greatly contribute to childhood obesity:

- With a decreasing number of mothers who breast feed, more infants become obese children as they grow up on infant formula instead.
- Less children go outside and engage in active play as technologies such as television and video games keep children indoors.
- Rather than walking or biking, more school age children are driven to school reducing their physical activity.
- The social context around family meal time plays a role in rates of childhood obesity.

Social Policies

Different communities and nations have adopted varying social practices and policies that are either beneficial to children's physical health. These social factors include:

- The quality of school lunches
- The emphasis of schools on physical activity
- Access to vending machines and fast food restaurants
- Prevalence of and access to parks and side walks
- Advertisement of fast food restaurants and candy

- Prices of healthy and unhealthy foods

Advertising

Advertising of unhealthy foods correlates with childhood obesity rates. The media defends itself by blaming the parents for yielding to their children's demands for unhealthy foods.

Socio Economic Status

It is much more common for young people who come from a racial or ethnic minority or for those who have a lower socioeconomic status to be overweight and to engage in less healthy behaviors and sedentary activities. Majority of children with obesity do not have an organic cause, these children grow normally and are tall for their age. They have proportional obesity and normal development. Important environmental influences include excessive calorie intake, sedentary lifestyle, and computer playing.

Complications Of Obesity

a) Endocrine And Metabolic Diseases

- Hyperinsulinemia
- Impaired glucose tolerance
- type 2 Diabetes Mellitus
- Dyslipidemia.

b) Cardiovascular Diseases

- Hypertension
- Coronary Heart Disease
- Cerebrovascular and thromboembolic disease

c) Pulmonary Disease

- Restrictive lung disease
- Obstructive sleep apnoea

d) Neurologic Disease

- Idiopathic intracranial hypertension

e) Pregnancy

- Neural tube defects
- Pre-eclampsia

- Caesarian section
- Pre-term labor

f) Postoperative Complications

Prevention

School plays a major role in preventing childhood obesity by providing a safe and supporting environment with policies and practices that support healthy behaviors. At home parents can help prevent their children from becoming overweight by changing the way the family eats and exercises together. The best way children learn is by example, so parents need to lead by example by living a healthy lifestyle.

A. Dietary

Calorie rich food and drinks are readily available to children/ Consumption of sugar laden soft drinks may contribute to childhood obesity. In addition fast food restaurants give out toys in children's meal, which helps to entice children to buy the fast food. Whole milk consumption verses 2% milk consumption in children of 1 or 2 years of age has no effect on weight, height or body fat percentage. Therefore whole milk continues to be recommended for this age group. But the trend of substituting sweetened drinks for milk has been found to lead to excess weight gain.

B. Legal

Some jurisdictions attempt to use laws and regulations to steer kids and parents towards making healthier food choices. For example: Calorie Count Laws and banning Soft Drinks from sale and vending machines from schools.

C. Physical Activity

It has also shown to be a serious cause and children who fail to engage in regular physical activity are at great risk of obesity. Physical inactivity as a child can lead to physical inactivity as an adult. Many children fail to exercise because they are spending time doing immobile activities such as computer usage, playing video games or

watching television. Technology has a huge role to play in children's activeness.

D. Home Environment

Children's food choices are also influenced by family meals. More mothers work the more children are likely to be overweight or obese.

E. Developmental Factors

For example: Breast feeding may protect against obesity in later life with the duration of breast feeding inversely associated with the risk of being overweight later on. A child's body growth pattern may influence the tendency to gain weight.

F. Psychological Factors

There is a positive correlation between obesity and low self esteem. Decreased self esteem led to children feeling sad, bored and feeling nervous. Also stress can influence child's eating habits. Feeling of depression can cause a child to overeat. Antidepressants seem to have very little influence on childhood obesity.

Attention Deficit Hyperactivity Disorder (ADHD) creating abnormal eating behaviors which lead to obesity or impulsivity associated with binge eating leading to ADHD in obese patients.

Management

Obesity in children is treated with dietary changes and physical activity. Dieting and missing meals should be discouraged. The benefit of tracking BMI and providing counseling around weight is minimal.

Lifestyle

Exclusive breast feeding is recommended in all newborn infants for its nutritional and other beneficial factors. Parents changing the diet and lifestyle of their offspring by offering appropriate food portions, increasing physical activity and keeping sedentary behaviors at a minimum may also decrease the obesity levels in children.

Surgery

Laparoscopic adjustable gastric banding

Laparoscopic sleeve gastrectomy

Psychotherapy

Motivation for weight reduction must be cultivated in the patient's mind.

Liposuction

Large volume liposuction is possible, upper limit that can be removed must be defined. The removed fat should not be considered as lost weight.

1. Homoeopathic Remedies

Several remedies are available to treat obesity in children that can be selected on the basis of cause, sensations, and modalities of the complaints.

Calcarea Carb

When the obesity starts early in life. Children are pot bellied. Even the head is large sized. There is excessive sweating on the head. This sweating is more pronounced while sleeping. The pillow gets wet when the child sleeps. This child is usually anemic even when he seems to be quite obese. There is a desire for eating some indigestible things like chalk, earth and paper. The child becomes hungry soon after eating. The child is quite sensitive to cold and cannot tolerate cold air or low temperatures. The head remains icy cold. The digestive system is sluggish and the child is often constipated.

Antim Crudum

When the excess fat is centered on the upper body with the legs being thin and weak. Such patients are quite fond of eating. He likes acidic things like pickles. Used in persons having the tendency to become fat mainly due to overeating and indigestion. The tongue has a thick white coating.

Cinchona Officinalis

It is used specially for obesity treatment to reduce gluttonous appetite, indigestion after taking raw fruit and

vegetables. Basically it is used for those people who are internally very weak but obese.

Calotropis Gigantia

It is used to reduce the fat without decreasing the weight. In this way the flesh will be decreased, the muscles will become harder and firmer.

Staphysagria

It is applied if the patient tends to eat out of repressed anger. The weight gain problem may be compounded by oppressive, even abusive relationships in the patient's life.

Phytolacca Berry

It is commonly used as a patent medicine for weight reduction.

Coffea Cruda

It is indicated if the patient is excitable and nervous and eats primarily to calm down.

Ferrum Met

It is indicated when the patient has anemia despite being fat. The muscles are flabby and relaxed. The patient is so weak that walking or talking can be difficult.

Capsicum

It is used when one is mentally and physically sluggish and indolent. The patient does not like any physical exertion and does not feel like doing anything that is not in the routine. The digestion is slow and sluggish.

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