

CHILDHOOD OBESITY, A CHALLENGE FOR US

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disorders and poor nutrition are rife. (Carl Honore)

Abstract

Lifestyle and behavior choices are important factors in influencing health status of individual. Unhealthy diets and physical inactivity are major risk factors for overweight and obesity as well as a number of chronic health conditions. Childhood obesity however can also lead to life-threatening conditions including diabetes, high blood pressure, heart disease, sleep problems and other disorders. The childhood obesity can be prevented, if we will consciously fervent it from its causative factors. To control obesity strong will power and your lifestyle modification is essential. Healthy eating combined with increased physical activity can prevent obesity in any ages.

Introduction

In our fast-forward culture, we have lost the art of eating well. Food is often little more than fuel to pour down the hatch while doing other stuff - surfing the Web, driving, walking along the street. Dining al desko is now the norm in many workplaces. All of this speed takes a toll. Obesity, eating

Lifestyle and behavior choices are important factors in influencing health status of individual. Unhealthy diets and physical inactivity are major risk factors for overweight and obesity as well as a number of chronic health conditions. In the world we live in today, many influences strive to pull us away from the healthy life. Our modern life style not only provides us sophisticated luxurious life and saves time, also we are proceeding to many adverse health problems due to this life style. Childhood obesity is one of the major health problem which is also due to influence of modern life style. Obesity means an abnormal growth of adipose tissue due to an enlargement of fat cell size (lypertrophic obesity) or an increase in fat cell number (lyperplastic obesity) or a combination of both. However, obese individual differs not only the amount of excess fat that they store, but also in the regional distribution of the fat within the body. The obesity in later life can be

developed from childhood obesity. Childhood obesity should give special attention as it is associated with serious health problems and the risk of premature illness and death later in life. Childhood obesity is a major public health crisis nationally and internationally.

Approximately 22 million children under five are estimated to be overweight worldwide. Overweight and obesity are the fifth leading risk for global deaths. At least 2.8 million adults die each year as a result of being overweight or obese. In addition, 44% of the diabetes burden, 23% of the ischemic heart disease burden and between 7% and 41% of certain cancer burdens are attributable to overweight and obesity. Overweight and obesity are linked to more deaths worldwide than underweight.

CAUSES OF CHILDHOOD OBESITY

Eating habit

Eating habits generally developed from childhood itself. Eating habits like Eating between meals, preference to sweets, refined food and fats are established in early life. Now a days the children are fond up in regular consumption of high-calorie foods like fast food, cookies and other baked goods, soda, candy, chips and vending machine snacks which are contributing to weight gain. The children are not only consuming high caloric diet but also they are consuming continuously throughout the day through snaking. Choosing healthy foods is difficult

for parents who live in areas with an overabundance of food retailers that tend to sell less healthy food, such as convenience stores and fast food restaurants and also there is continuous advertising of less healthy foods by which the children are more attaching with fatty foods.

Lack of physical activity

It has also observed that now a day's the children become sedentary due to no safe and appealing place in many communities to play or be active and busy life schedule of both parents and children. For them getting to parks and recreation centers may be difficult and public transportation may not be available. Busy schedule of parents also not allowing them to move out from house. Over work burden from school lack of attachment with their neighbored and friends push them to stay home and lastly they were enjoying their recreational period by attaching with computers, television, and video games etc.

Lack of breastfeeding support

Breastfeeding protects against childhood overweight and obesity. However, due to lack of knowledge and support from the family members, the early initiation of breast feeding and exclusive breast feeding

up to 6 month is very less. The success rate among mothers who

want to breastfeed can be improved through active support from their families, friends, communities, clinicians, health care leaders, employers and policymakers and also the mother should learned regarding successful exclusive of breast feeding, its technique and proper attachment etc.

Psychological factors

Like adults, psychosocial factors are deeply involved in the etiology of childhood obesity. In nuclear families when the parent move for their job the child have to stay alone or with his/her care taker which make the child stress and strain. Children may turn to food as a coping mechanism for dealing with problems or negative emotions like stress, anxiety, or boredom. They not only struggling to cope with a divorce or death in the family and eat more, but also during coping with their personal crises like stress for over burden of school activity or to cope with first moving world. All these psychological factors make the child to eat more.

Genetic factor

Genetics can contribute to obesity, but very rarely. Only one percent of obesity is due a hormonal cause that is, mutations that lead to altered secretion of hormones or hormonal action. This would have been a very good trait hundreds of

years ago, when the people were struggling for food and that time people were also very active. Today, though, this can work against people who have these genes but now other factors like environmental factors and life style influencing more to make an individual obese.

Socioeconomic factors

There is a clear inverse relationship between socio economic status and obesity. Obesity is found that to be more prevalent in the lower socio economic group. Children from low-income backgrounds are at increased risk for childhood obesity since low-income parents may lack the time and resources necessary to purchase and prepare healthy foods and fast food, which is cheaper and more readily available in low-income communities.

Medical conditions

Certain physical and mental illnesses and the pharmaceutical substances used to treat them can increase risk of obesity. Medical illnesses that increase obesity risk include several rare genetic syndromes as well as some congenital or acquired conditions: hypothyroidism, Cushing's syndrome, growth hormone deficiency and the eating disorders. The risk of overweight and obesity is higher in patients with psychiatric disorders than in persons without psychiatric

disorders. Certain medications may cause weight gain or changes in body composition; these include insulin, sulfonylureas, thiazolidinediones, atypical antipsychotics, antidepressants, steroids, certain anti-convulsants (phenytoin and valproate), pizotifen and some forms of hormonal contraception.

Sleep

In a review of studies in the journal Archives of Disease in Childhood, researchers found that kids who sleep less than the recommended amount of about 13 hours a day at age 2 are more likely to be obese at age 7. Fatigue alters the levels of appetite-regulating hormones which can cause children to eat more.

Societal reasons

Childhood obesity is mainly associated with unhealthy eating and low levels of physical activity, but the problem is linked not only to children's behaviour but also, increasingly to social and economic development and policies in the areas of agriculture, transport, urban planning, the environment, food processing, distribution and marketing, as well as education.

Consequence

Children who are obese are likely to be more at risk for adult health problems such as, stroke, several types of cancer and osteoarthritis. Study shows that children who became obese as early as age 2 were more likely to be obese as adults which contributing to a shorter lifespan of them. Childhood obesity however can also lead to

life-threatening conditions including diabetes, high blood pressure, heart disease, sleep problems and other disorders. Some of the other disorders would include liver disease, early puberty or menarche, eating disorders such as anorexia and bulimia, skin infections, asthma and other respiratory problems. Overweight children are more likely to grow up to be overweight adults. Obesity during adolescence has been found to increase mortality rates during adulthood. Obese children often suffer from teasing by their peers. Some are harassed or discriminated against by their own family. Stereotypes abound may lead to low self-esteem and depression.

Global research found that, Raised BMI is a major risk factor for non-communicable diseases such as cardiovascular diseases (mainly heart disease and stroke), diabetes, musculoskeletal disorders especially osteoarthritis and some form of cancers like endometrial, breast and colon cancer. According to Italian researchers, the study shows that obesity may be causing thyroid disorders. Research also proved that obese children experience breathing difficulties, increased risk of fractures.

Assessment For Obesity

The obesity in children can generally assessed by measuring BMI. BMI is computed using the following formula

$BMI = \text{Weight (kg)} / \text{Height (m}^2\text{)}$ **BMI**

(WHO - Classification)

- BMI < 18.5 = Under Weight
- BMI 18.5-24.5 = Healthy weight range
- BMI 25-30 = Overweight
(Grade 1 obesity)
- BMI >30-40 = Obese (Grade 2 obesity)
- BMI >40 = Very obese (morbid or
Grade 3 obesity)
- BMI >50 = Super obese (Grade IV)

Prevention of Obesity

Cure from obesity is difficult if it started in later stage but it can be easily prevented from childhood itself, if we properly plan to maintain the weight of our children. The childhood obesity can be prevented, if we will consciously prevent it from its causative factors.

Prevention in Preconception

Prevention of childhood obesity can starts prior to conception which can be possible by preventing and treating obesity among parents as the risk of obesity in a child born to obese parents is significantly increased and the parents act as role models for their children. So parents should be treated first.

Prevention in Post Conception:

Obesity can be prevented in post conception phase by providing routine prenatal care and advocate for appropriate weight gain during the pregnancy. The mother should be properly cared for not getting systematic diseases like diabetes mellitus.

The mother should encourage for doing light household work during pregnancy. Educate the mothers regarding the importance of breast feeding for maintaining weight for both mother and baby.

Prevention in Infancy

Proper exclusive Breastfeeding also helps in preventing obesity. Research proved that the duration of breastfeeding is inversely associated with the risk of overweight. The reason for breastfeeding preventing obesity is unknown but there are two major theories. 1. Breastfed infants consume fewer calories and have lower rates of weight gain than do formula fed infants. 2. In animal experiments, the kind of neonatal nutrition was shown to influence the development of neuroendocrine circuits in the mediobasal hypothalamus that regulates appetite control and body weight. The parents must be educated regarding beverages intake of their children. The child sweet beverages intake should be limited because

provision of sweet beverages promotes desire to consume sweet beverages. During introduction of solid food vegetables must be introduced first because the infants born with preference for sweet. The mother should continue to provide the food even if initially rejected. Some time the mother uses TV as a “Baby sitter” which develops watching T.V

in later age. Promotion of parental interaction with infant is also important.

Prevention in Toddler

Children usually take beverages, 20% of obese children are obese due to excessive caloric consumption from beverages. For every 100 calories consumed per day in excess will result in 10 pound weight gain per year. So, encourage the mother to promote consumption of water when thirsty. Some mothers encourage the children for “clean the plate rule” which should be discouraged. Parents provide, children decide what to eat rule must followed. The use food as a reward should be avoided. Promotion of physical activity through playing with parents as well as friends must be encouraged.

Prevention in children

Regular monitoring BMI and positive reinforcement for being normal weight can be an encouragement for the family to avoid over weight of their child. Being overweight at one time between ages of 24 and 54 months was associated with a 5 fold increased risk of obesity at 12 years. Encourage the children not to eat in front of TV. “Clean the plate rule” should not be followed at any age. The diet restriction and exercises can be recommended for any age to prevent obesity.

Diet to prevent obesity

Regular consumption of high-calorie foods, such as fast foods, baked goods and vending-machine snacks, contribute to weight gain. High-fat foods are dense

in calories. For prevention of obesity the diet should contain vegetables and fruits to as many things as possible. Avoidance of processed and fried foods, red meat, ghee butter, cream and chocolates is essential. The saturated fat can be replaced by vegetable oils like olive and sunflower oil etc. Traditionally, dieters cut cereals, pasta and potatoes to control weight, but these are sources for complex carbohydrates which help to feel full and maintain a healthy weight. So for controlling obesity the individual should avoid high-fat toppings on carbohydrates and try plain or low-fat yogurt. Generally children having the habit of frequent snacking. For that maintenance of diary for caloric calculation is essential. The children should avoid junk food and extra salt also in food. They should practice moderation, not avoidance of food and it is also important not to skip the meal. Parents should be the role models for children.

Exercises

Now a day the children become sedentary because they don't burn calories through physical activity. The children should encourage playing out door game and limiting T.V, internet and playing of video games.

The children and their family members should be taught regarding burning of calories like, home activities burns 3 kcal/ minute, walking 4 kcal/ minute, jogging 6 kcal/ minute, running 8 kcal/ minute and running up the stairs 10 kcal/ minute. For children battling obesity, yoga can prove very beneficial. Yoga involves a series of gentle postures, breathing exercises and meditation techniques. Together these can treat obesity, correct imbalances in the body and create a healthy resolve to fight off the condition. Unlike other methods yoga doesn't have any unpleasant side effects, neither is it strenuous. Yoga exercises involve a lot of stretching and bending, pushing all the muscles in the body into action. In addition kids also learn to breathe properly, utilizing complete lung capacity, improve posture and build self confidence. The meditative aspects of yoga helps children cope with stress and anxiety. It also boosts will power and concentration. It enables the child to control binge eating in the face of anxiety or boredom.

Medication

There are no medications currently approved for the treatment of obesity in children. Orlistat and sibutramine may however be helpful in managing moderate obesity in adolescence. Sibutramine is approved for adolescents older than 16. It works by altering the brain's chemistry and decreasing appetite. Orlistat is approved for adolescents older than 12. It works by preventing the absorption of fat in the intestines.

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Conclusion

Generally Obesity is not a disease, it is a public health problem and it is a risk factor for several chronic diseases. No miracle “cures” or products are available to cure it. Childhood obesity can be fatal in later ages. To control obesity strong will power and your lifestyle modification is essential. Healthy eating combined with increased physical activity can prevent obesity in any ages.

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