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Causes of Weight Problems in Children

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Is your child struggling with maintaining a healthy weight? Overweight conditions and obesity are rising globally, especially in industrialized western countries like the United States and the United Kingdom. These statistics are substantiated by body mass index (BMI) charts based on age and gender created in the previous two decades. In this article, which is part of our series of articles on weight problems in kids, we will talk about the main views on what causes obesity in children.

Evaluating a Child's Weight

Obesity in children is diagnosed when a child's weight exceeds the healthy range for their height due to excess body fat. Worldwide, about 2% of children are clinically obese, and 10% are clinically overweight. The body mass index (BMI) scale is commonly used to determine a child's appropriate weight. Children's BMI, however, is calculated differently than in adults because of children's smaller frames.

The CDC's growth charts are utilized instead of a mathematical formula to calculate a child's BMI. A child's development chart is essential since it considers the child's age-related growth pattern and takes gender variations into account. A child is considered overweight at or above the 85th percentile of BMI and below the 95th percentile. At or above the 95th percentile, one is deemed obese.

A Common Misconception About Obesity

Apart from certain health conditions that can be associated with or caused by excessive weight, there's a huge problem of poor understanding of the problem in the society. According to conventional wisdom, weight can be controlled by one's free will and therefore people become obese just because they're lazy and lack willpower – eating too much and exercising too little.

This view causes stigmatization, isolation and a lot of psychological problems for those struggling with their weight; and it is an especially sensitive issue for children and teenagers because of bullying and shaming they can face in their communities. Blaming weight on willpower is also a breeding ground for weight loss industry that in reality often has very little to do with science but gains popularity due to exploiting the guilty state of mind of people with weight issues.

However, according to a study by an epidemiologist Jane Wardle from the University College London, obesity risk is three quarters inherited and much less dependent on one's free will or home environment. As Dr. Andrew Jenkins explains in his book called "Why We Eat Too Much", genetic and epigenetic predisposition to obesity can run not only in families but also in whole nations as a result of their historical development and dominant food environment. It means that a person with obesity genes needs to make much more effort than those without it to maintain a healthy weight.

Explanations of Obesity in Children

Obese children are more likely to grow up to be obese adults, with seemingly no end in sight to the obesity pandemic. Much of this can be attributable to current diets high in processed foods rich in highly refined sugar and wheat, and vegetable fats which can alter a child's metabolism even before birth. Genetic (DNA) and epigenetic (heritable traits that do not include actual changes to the DNA) traits triggered by the environmental factors result in how much body weight one carries. Which means heredity, metabolism, level of physical activity, eating habits, and social and psychological variables all play a role in the development of obesity in children.

Weight Set Point Theory

It's a common belief that obesity is developed due to an energy imbalance (too many calories consumed and too little expended). However, as it's already been mentioned, understanding and fighting obesity is more involved than simply counting calories.

According to the weight set point theory, our weight is controlled by a specific center in the brain (hypothalamus) that calculates our ideal weight based on our genetics and signals received from the environment. Whenever our weight starts to deviate from that ideal, the brain will send signals to the body either to increase appetite and slow down metabolism (if we've lost some weight) or to decrease appetite and speed up metabolism (if we've gained too much weight). This is referred to as the negative feedback system, and it preserves our set weight by automatically adjusting variations from a predetermined weight.

This physiological preservation of the set point leads to the fact that most obese individuals who diet eventually restore the weight they lost in the first place and also gain some more. The latter happens because the hypothalamus will make an adjustment for what has just been perceived as famine or food shortage (because of the forced calorie limitation during dieting) to have the body store more energy to survive the next similar episode.

Weight set point is considered pretty hard (although possible) to change in adults. However, resent research shows that it could be much more adaptable in early life. Which means it is quite feasible to change children's projected weight track and prevent them from becoming obese adults.

Genetics and its Role in Obesity

Genetically, obesity can run in families and populations and be a result of hardships that caused a sort of natural selection. For example, scientists argue that this can be the case of Pacific Islanders. Thousands of years ago, their ancestors had to travel long distances to get to the islands from the big land, and only those who had good stores of fat in their bodies could survive the long arduous journeys. The survivors passed their "thrifty" genes to their offsprings which formed a certain genotype of the population of Pacific Islands, where today over 70% of the population are considered obese.

Epigenetics involves gene alterations that can happen during pregnancy or early childhood in response to environmental challenges – these alterations do not change the DNA but can switch off certain genes providing a sort of genetic moulding. For example, children of mothers who suffered from starvation or malnutrition during pregnancy can be more likely to develop obesity in an environment with abundance of high-calorie food, as their body was primed for conditions where food would be scarce.

The same can be true for children whose mothers consumed a lot of obesogenic food during pregnancy. Since that type of food, although rich in calories, has low content of vitamins and minerals, it gives the child's body signals of undernutrition and causes their genes to adjust in a way to ensure sufficient nutrition in the future – slow metabolism

and increased appetite – which under certain conditions can lead to obesity. Epigenetic traits are believed to survive for up to four generations.

Sedentary Lifestyle

Inactive lifestyles and limited time spent participating in physical exercise are ordinary among today's youth. The physically taxing chores of our daily life are handled by accommodating technology. Computers, televisions, tablets, and other forms of electronic amusement have diminished the value of a regular exercise schedule. The emergence of the worldwide pandemic has further increased the use on screen-technology in teaching and learning, thus limiting a child's time outside and running even more.

Physical activity and exercise improves one's metabolic health due to better cortisol management and lower insulin rates, which both contribute to healthy weight. Hence, lack of exercise puts a child at risk of developing obesity problems, especially if they're genetically predisposed for it.

Western Diet and Omegas

In the 1970s, dietary guidelines were published in the US, which changed people's food consumption dramatically. The target of the guidelines was to minimize the consumption of saturated fats (found in meat, eggs and dairy products) and replace them with grains and vegetable oils – the food and marketing industries helped us reach those goals in no time.

Some doctors and scientists connect the rise of obesity crisis in the western world with this diet shift. Why would it be so?

One of the reasons is, obviously, the high consumption of refined carbohydrates (sugar and wheat) in the form of processed foods which leads to increased calories intake and elevated levels of insulin both of which play a major part in the development of obesity. Besides, the snacking culture that appeared soon after the dietary change contributed to increasing our sugar cravings and messing up our insulin levels even more.

The other effect of the western diet is less obvious. As Dr. Andrew Jenkins points out, green leafy vegetables and animals that feed on them, contain high levels of the essential omega-3 fatty acid, whereas grains and seeds (from which vegetable oils are made) are rich in omega-6. Omega-6 cause an increased inflammatory response in our body and thickens our blood, whereas omega-3 has the opposite action. The imbalance in these two important fatty acids in our diet, and hence in our system, can effect many processes in our bodies including the work of hormones that are highly responsible for our health and weight.

Conclusion

Obesity in children has several underlying reasons. Many factors contribute to obesity – first of all heredity, but also the lack of physical exercise and the consumption of meals rich in sugar and processed vegetable oils. The rising tide of childhood obesity results from a merging of all these factors.

Combating juvenile obesity requires more than just calorie management and frequent, strenuous physical activity. Today's parents should be aware of the complexity of childhood obesity and the best ways to encourage and support their children's healthy habits. Check out our next article, where we will discuss in more detail how hormones affect weight gain, why dieting is a bad idea, and what lifestyle changes you and your child can make to reduce weight, get healthier, and keep it off – for good.

About the author

Julie Sheard - Educator and Specialized Instructional Assistant.
United States, CA, Felton

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