



The Eventual Fate of Sustenance: The relationship between Obesity, Cardiovascular diseases and Nutrigenomics

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Abstract

Obesity has been linked to a number of health issues including sleep apnea, heart disease, stroke and Type 2 diabetes. It can also have a negative impact on mental health as well as quality of life and lead to joint issues like osteoarthritis. Obesity can be brought on by a variety of factors, including genetics, the environment, and lifestyle choices. A diet high in calories but low in nutrients, inactivity, lack of sleep, stress and certain medical conditions and medications are all factors that contribute to obesity.

Keywords: Obesity; Type 2 diabetes; Stroke

Introduction

Obesity is a multifactorial condition brought on by a person's lifestyle, environment, and genetics. Up to 70% of cases may be attributed to the genetic component of obesity. It has been linked to a number of genes, including those that control appetite and satiety, metabolism, and fat storage [1]. The following are a few well-studied genes:

1. **Gene known as FTO (Fat Mass and Obesity-Associated):** There is a strong link between this gene and higher BMI and obesity. It is believed to regulate both energy intake and expenditure.
2. **Gene for the MC4R (Melanocortin 4 Receptor):** Appetite control and energy balance are both influenced by this gene. This gene's mutations have been linked to severe obesity with early onset.
3. **LEPR (Leptin Receptor) quality:** Appetite and metabolism are regulated by the hormone leptin. Leptin resistance, which can be a factor in obesity, can be caused by mutations in the LEPR gene.
4. **The gene for Insulin Induced Gene 2 (INSIG2):** Numerous studies have linked obesity to this gene, which regulates the metabolism of fat.

It is essential to keep in mind that possessing these genetic variations does not necessarily imply obesity. The development of obesity is also significantly influenced by lifestyle and environmental factors.

In conclusion, although genetics do play a role in obesity, it is a complicated condition that is influenced by a variety of factors, such as lifestyle choices and the environment.

A medical condition known as obesity is characterized by an excessive accumulation of body fat that can have negative effects on one's health. It is characterized by a weight list (BMI) of 30 or higher [2]. The body mass index (BMI) is determined by dividing a person's height in meters squared by their weight in kilograms.

Literature Review

Obesity is often treated with a combination of lifestyle changes like changing one's diet and getting more exercise and medical interventions like weight loss pills and surgery. Obesity must be addressed because it has the potential to seriously harm health and well-being.

A mental health condition known as an eating disorder is characterized by abnormal eating behaviors as well as attitudes toward food and body weight. Although they can affect people of any age,

gender, or background, adolescent girls and young women are the most frequently diagnosed with eating disorders [3,4].

There are many different kinds of eating disorders, including:

1. **Nervous anorexia:** An extreme fear of gaining weight and a distorted body image are hallmarks of anorexia. Anorexics may use vomiting or laxatives to lose weight and may have a dangerously low body weight.
2. **Anorexia nervosa:** The purging behaviors of vomiting, fasting, or excessive exercise that follow episodes of binge eating are known as bulimia. Bulimia can affect people of any weight, from normal to overweight.
3. **Disorder of binge eating:** Binge eating disorder is characterized by recurrent episodes of eating a lot of food in a short amount of time and feeling like you can't control yourself. People with a binge eating disorder do not purge themselves, unlike those with bulimia.
4. **Additional specific eating or feeding disorders (OSFED):** Disorders that still involve abnormal eating behaviors and attitudes toward food and body weight but do not meet the full criteria for anorexia, bulimia, or binge eating disorder fall into this category.

Eating disorders require specialized treatment from mental health professionals, dietitians, and medical doctors because they can have serious effects on one's physical and mental health. Treatment might incorporate treatment, prescription, and dietary directing, and might be finished on a short term or long term premise, contingent upon the seriousness of the issue. Recovery rates can rise with early diagnosis and treatment [5].

A condition known as childhood obesity involves a child's excessive body fat, which puts them at risk for a variety of health issues. Obesity

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is defined as having a body mass index (BMI) for children of the same age and gender that is higher than the 95th percentile. In many parts of the world, childhood obesity is a growing problem that can have serious effects on a child's physical and emotional health.

The reasons for youth heftiness are complicated and can fluctuate from one kid to another. Lack of physical activity, a poor diet and nutrition, genetics, and environmental factors like access to unhealthy food options are some of the most common causes of childhood obesity. The development of childhood obesity can also be influenced by socioeconomic status, cultural and societal norms, and family dynamics [6,7].

Discussion

Numerous adverse health effects can result from childhood obesity. It raises the risk of developing long-term health issues like high blood pressure, heart disease, and Type 2 diabetes. It can also have a negative impact on a child's mental health and self-esteem, resulting in anxiety and depression. Obese children are also more likely to be bullied or ostracized by their peers, which can lead to emotional issues and social isolation [7].

An essential public health concern is preventing childhood obesity. By encouraging healthy eating habits and encouraging physical activity, parents and other caregivers can contribute to the prevention of childhood obesity. Limiting sugary drinks and unhealthy snacks, increasing fruit and vegetable consumption, and encouraging regular physical activity like sports and outdoor play are all examples of this. By providing healthy food options and promoting opportunities for physical activity, communities and schools can also contribute to the prevention of childhood obesity.

The condition known as "pediatric obesity" is when a child or adolescent has an excessive amount of body fat, which can cause serious health issues. The reasons for pediatric weight are perplexing and can fluctuate from one youngster to another; however a few normal factors that add to the condition incorporate an absence of active work, less than stellar eating routine, hereditary qualities, and ecological factors like admittance to undesirable food choices.

In many parts of the world, the problem of childhood obesity is getting worse, and it can have serious effects on a child's physical and emotional health. Obese children are more likely to develop long-term conditions like heart disease, high blood pressure, and Type 2 diabetes [8]. In addition, they may experience social exclusion and bullying as well as mental health issues like depression and anxiety.

A multidisciplinary approach is needed to prevent and treat obesity in children. By encouraging healthy eating and physical activity from an early age, parents and other caregivers can aid in the prevention

of pediatric obesity. This could mean making healthy food available at home, limiting drinks with sugar and unhealthy snacks, and encouraging regular physical activity like sports and playing outside.

Pediatric obesity prevention and management can also benefit from the expertise of medical professionals. In order to assist families and children in making healthier choices, they may suggest dietary modifications, physical activity and behavior modification strategies. Children who are severely obese may sometimes require surgery or medication.

Conclusion

Children's obesity can also be managed and prevented through community-wide initiatives. This can incorporate drives, for example, elevating admittance to quality food choices in schools and networks, giving open doors to actual work, and advancing arrangements that help sound ways of life. We can aid in the prevention and management of childhood obesity and promote improved health outcomes for children and adolescents by cooperating with one another.

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Conflict of Interest

None

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