

The Role of Physical Activity in Combating Obesity and Diabetes

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DESCRIPTION

Obesity is a complex, multifactorial disease characterized by excessive body fat accumulation that poses a risk to health. It is typically measured using the Body Mass Index (BMI), where a BMI of 30 or above is classified as obese. The prevalence of obesity has been rising globally, with significant health, economic, and social implications. The causes of obesity are diverse, including genetic, environmental, psychological, and behavioural factors. It is associated with numerous health conditions such as type 2 diabetes, cardiovascular diseases, and certain cancers. Effective management and prevention strategies require a comprehensive approach involving diet, physical activity, behaviour modification, and sometimes medical or surgical interventions. Public health policies and education also play important roles in addressing the obesity epidemic.

The link between obesity and diabetes

One of the most serious health risks associated with obesity is type 2 diabetes. Diabetes is a chronic condition that affects the way the body processes blood sugar (glucose). Type 2 diabetes, which is most commonly associated with obesity, occurs when the body becomes resistant to insulin or when the pancreas fails to produce enough insulin. This leads to elevated levels of blood sugar, which can cause serious health problems over time, including heart disease, kidney damage, nerve damage, and vision problems. The connection between obesity and diabetes is well-documented. Excess body fat, particularly visceral fat stored around the abdomen, can cause the body's cells to become less responsive to insulin, leading to insulin resistance. Additionally, obesity can lead to chronic inflammation, which is also linked to insulin resistance and type 2 diabetes. As the body struggles to manage blood sugar levels, the pancreas may become overworked, eventually leading to its failure to produce sufficient insulin.

The role of physical activity

Physical activity plays an important role in both preventing and

managing obesity and type 2 diabetes. Engaging in regular exercise has multiple beneficial effects on the body, many of which directly counteract the factors that contribute to obesity and diabetes.

Weight management: Regular physical activity helps to burn calories and build muscle mass, both of which are essential for maintaining a healthy weight. Exercise increases the body's energy expenditure, helping to create a caloric deficit that leads to weight loss. It also helps to preserve lean muscle mass during weight loss, which is important for maintaining metabolic health.

Improved insulin sensitivity: Exercise enhances the body's sensitivity to insulin, meaning that the cells are better able to respond to insulin and take up glucose from the bloodstream. This is particularly important for people with insulin resistance, as improved insulin sensitivity can help to lower blood sugar levels and reduce the risk of developing type 2 diabetes.

Reduction of visceral fat: Physical activity, especially aerobic exercise, has been shown to reduce visceral fat, the dangerous fat that surrounds internal organs and contributes to insulin resistance. Reducing visceral fat can significantly improve metabolic health and lower the risk of diabetes.

Control of blood sugar levels: For people with diabetes, regular physical activity helps to control blood sugar levels by increasing glucose uptake by muscles and improving overall metabolic function. Exercise can help to prevent spikes in blood sugar levels after meals and improve long-term blood sugar control.

Reduction of inflammation: Regular physical activity has anti-inflammatory effects, which can help to reduce chronic inflammation associated with obesity and insulin resistance. Lower levels of inflammation are linked to improved insulin sensitivity and reduced risk of type 2 diabetes.

Practical recommendations

To effectively combat obesity and reduce the risk of diabetes, it is important to incorporate regular physical activity into daily

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routines Aim for at least 150 minutes of moderate-intensity aerobic exercise, such as brisk walking, cycling, or swimming, per week. This can be broken down into sessions of at least 30 minutes on most days of the week. Include strength training exercises at least two days per week. Activities such as weightlifting, resistance band exercises, or bodyweight exercises like push-ups and squats can help build muscle mass and boost metabolism. Incorporate more physical activity into daily life by taking the stairs instead of the elevator, walking or cycling for short trips, and engaging in active hobbies such as gardening or dancing.

CONCLUSION

Obesity and type 2 diabetes are closely linked, with obesity being a major risk factor for the development of diabetes. However, regular physical activity offers a powerful tool for preventing and managing both conditions. By promoting weight loss, improving insulin sensitivity, reducing visceral fat, and controlling blood sugar levels, physical activity can significantly lower the risk of diabetes and enhance overall health. Making physical activity a regular part of daily life is essential for combating the global epidemic of obesity and diabetes.