

How Exercise Benefits People with Diabetes

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Abstract

Exercise plays a pivotal role in the management and treatment of diabetes mellitus. It offers a multitude of benefits ranging from improved glycemic control to enhanced cardiovascular health. This article explores the various ways exercise positively impacts individuals with diabetes, including its effects on blood sugar levels, insulin sensitivity, weight management, and overall well-being. Understanding the mechanisms behind these benefits can empower healthcare professionals and patients alike to incorporate regular physical activity as an integral part of diabetes care.

Keywords: Hypoglycemia; Cardiovascular Health; Glycemic Control; Diabetes Management; Endorphins

Introduction

Diabetes mellitus is a chronic metabolic disorder characterized by elevated blood sugar levels resulting from either insufficient insulin production or the body's inability to use insulin effectively. The World Health Organization estimates that over 400 million people worldwide have diabetes, with this number expected to rise in the coming years. Managing diabetes involves a multifaceted approach that includes medication, dietary changes, and regular monitoring of blood glucose levels. Increasingly, exercise is being recognized as an essential component of diabetes management [1,2].

Methodology

Improved glycemic control: One of the most significant benefits of exercise for people with diabetes is improved glycemic control. Physical activity helps to lower blood glucose levels by increasing the uptake of glucose by muscles, even in the absence of insulin. Regular exercise can also make the body more sensitive to insulin, reducing the amount of insulin required to move glucose into cells. Studies have shown that both aerobic and resistance training can lead to reductions in HbA1c levels, a long-term indicator of blood sugar control [3].

Enhanced insulin sensitivity: Insulin resistance is a hallmark of type 2 diabetes, where the body's cells become less responsive to insulin. Exercise has been shown to enhance insulin sensitivity, allowing the body to use insulin more effectively. This improvement in insulin sensitivity means that glucose is more readily taken up by muscles and used for energy, rather than accumulating in the bloodstream. Over time, regular exercise can help to reverse insulin resistance and reduce the risk of developing complications associated with diabetes [4].

Weight management: Obesity is a significant risk factor for type 2 diabetes and can exacerbate insulin resistance. Exercise plays a crucial role in weight management by helping individuals to burn calories and build muscle mass. Aerobic exercises like walking, jogging or cycling are effective for burning calories, while resistance training helps to build muscle, which can increase metabolism and further aid in weight loss [5]. By incorporating exercise into their daily routine, individuals with diabetes can achieve and maintain a healthy weight, reducing their risk of complications and improving overall health [6].

Cardiovascular health: Cardiovascular disease is a leading cause of mortality among people with diabetes. Exercise has been shown to have beneficial effects on cardiovascular health by improving lipid profiles, lowering blood pressure, and reducing inflammation. Regular physical

activity can strengthen the heart muscle, improve circulation, and enhance overall cardiovascular fitness. These cardiovascular benefits are particularly important for people with diabetes, who are at an increased risk of developing heart disease [7,8].

Psychological well-being: Living with diabetes can be stressful and challenging, which can have a negative impact on mental health. Exercise has been shown to release endorphins, the body's natural mood lifters, which can help to reduce stress, anxiety, and depression. Additionally, the sense of accomplishment and improved self-esteem that comes with achieving fitness goals can boost overall psychological well-being [9,10].

Discussion

The benefits of exercise for people with diabetes are numerous and far-reaching. From improving glycemic control and insulin sensitivity to aiding in weight management and enhancing cardiovascular health, regular physical activity plays a critical role in diabetes management and prevention. Healthcare professionals should encourage their diabetic patients to incorporate exercise into their daily routine, tailoring recommendations to individual needs and preferences.

However, it's essential to consider the potential challenges that individuals with diabetes may face when starting an exercise program, such as hypoglycemia, foot problems, or cardiovascular complications. Therefore, a comprehensive approach that includes regular monitoring of blood glucose levels, appropriate medical supervision, and education about safe exercise practices is crucial.

Exercise should be viewed as a cornerstone of diabetes care, alongside medication and dietary management. By embracing the benefits of physical activity and overcoming potential barriers, people with diabetes can lead healthier, more active lives while reducing their risk of complications and improving their overall quality of life.

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Conclusion

Exercise undeniably holds a pivotal role in the comprehensive management of diabetes mellitus. Its multifaceted benefits extend beyond mere physical well-being, encompassing improved glycemic control, enhanced insulin sensitivity, weight management, cardiovascular health, and psychological well-being. These advantages not only aid in controlling the disease but also contribute to preventing the onset of complications associated with diabetes.

Embracing a regular exercise regimen empowers individuals with diabetes to take an active role in their health and well-being. However, it's imperative to approach exercise with a well-informed perspective, considering individual health conditions and potential challenges. Healthcare professionals play a crucial role in guiding and supporting diabetic patients in incorporating safe and effective exercise routines tailored to their specific needs.

In essence, exercise should be regarded as an integral component of diabetes care, complementing medication and dietary strategies. By promoting physical activity and fostering a proactive approach to health, individuals with diabetes can significantly enhance their quality of life, reduce their dependency on medications, and mitigate the risk of complications. Embracing the benefits of exercise is not just beneficial—it's essential for living a healthier, more fulfilling life with diabetes.

References

1. Shlomchik MJ (2009) Activating systemic autoimmunity: B's, T's, and tolls. *Curr Opin Immunol* 21: 626-633.
2. Goronzy JJ, Weyand CM (2001) T cell homeostasis and auto-reactivity in rheumatoid arthritis. *Curr Dir Autoimmun* 3: 112-132.
3. Weyand CM, Goronzy JJ (2003) Medium- and large-vessel vasculitis. *N Engl J Med* 349: 160-169.
4. Goronzy JJ, Weyand CM (2005) Rheumatoid arthritis. *Immunol Rev* 204: 55-73.
5. Hakim FT, Memon SA, Cepeda R, Jones EC, Chow CK, et al. (2005) Age-dependent incidence, time course, and consequences of thymic renewal in adults. *J Clin Invest* 115: 930-939.
6. Green NM, Marshak-Rothstein A (2011) Toll-like receptor driven B cell activation in the induction of systemic autoimmunity. *Semin Immunol* 23: 106-112.
7. Goronzy JJ, Weyand CM (2005) T cell development and receptor diversity during aging. *Curr Opin Immunol* 17: 468-475.
8. Kassiotis G, Zamoyska R, Stockinger B (2003) Involvement of avidity for major histocompatibility complex in homeostasis of naive and memory T cells. *J Exp Med* 197: 1007-1016.
9. Moulins R, Proust J, Wang A, Congy F, Marescot MR, et al. (1984) Age-related increase in autoantibodies. *Lancet* 1: 1128-1129.
10. Naylor K, Li G, Vallejo AN, Lee WW, Koetz K, et al. (2005) The influence of age on T cell generation and TCR diversity. *J Immunol* 174: 7446-7452.