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EFFECTIVENESS OF A REGULAR EXERCISE PROGRAM IN REDUCING THE RISK OF TYPE 2 DIABETES IN INDIVIDUALS WITH PREDIABETES

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Abstract

Prediabetes is a condition characterized by blood sugar levels that are higher than normal but have not yet reached the threshold for type 2 diabetes. Management of prediabetes through a regular exercise program is claimed to reduce the risk of developing type 2 diabetes. This literature research was carried out by reviewing various published empirical studies in health and medical journals in databases such as PubMed, Scopus, and the Cochrane Library. The studies analyzed were those that evaluated the effectiveness of a regular exercise program with a minimum duration of 12 weeks, and compared Hemoglobin A1c (HbA1c) scores, weight loss, and insulin sensitivity between intervention and control groups among individuals with prediabetes. Findings showed a significant reduction in HbA1c values, improved blood glucose control, and increased insulin sensitivity in individuals who underwent a regular exercise program compared to a control group who did not. It was identified that a combination of aerobic activity and resistance training provided the best benefit in reducing the risk of transition to type 2 diabetes. Regular physical activity plays an important role in combating the global increase in the incidence of type 2 diabetes, especially in individuals with prediabetes. Regularity and intensity of exercise are important factors in determining the success of the intervention. Based on the literature reviewed, a regular exercise program is effective in reducing the risk of type 2 diabetes in individuals with prediabetes. Recommendations for increasing the success of the intervention include creating individualized exercise programs, increasing awareness of the importance of physical activity, and support to maintain patient motivation.

Keywords: Type 2 Diabetes, Prediabetes, Regular Exercise, Intervention, Prevention.

INTRODUCTION

In the modern era filled with technological developments and lifestyle changes, the prevalence of non-communicable diseases such as type 2 diabetes continues to increase. One of the important phases in the