

THE POWER OF MODERATE TO HIGH-INTENSITY PHYSICAL EXERCISE COMBINED WITH A DIETARY PLAN FOR ELDERLY WITH DIABETES MELLITUS AND CARDIOVASCULAR ISSUES

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1. INTRODUCTION

Type 2 diabetes mellitus (T2DM) is a frequent companion associated with a high risk of cardiovascular events; both diseases share various physiopathological mechanisms and risk factors, resulting in a chronic systemic inflammatory state that leads to progressive vascular changes, requiring intensified treatment. It remains unclear how exercise optimizes the relationship between glucose levels and cardiovascular health, necessitating more intensive treatment. The literature lacks a comprehensive compilation of studies outlining recommended exercise types, intensities, and durations in conjunction with specific diets. This study aims to assess whether physical exercise and dietary changes positively affect cardiovascular risk factors and identify the most recommended exercise types, intensities, and durations for this purpose.

2. METHODOLOGY

Table 1. Acquisition of the selected papers from the databases.

Databases	Papers found	Papers select
Scielo	3	1
Medline	25	4
PubMed	23	8
PEDro	8	1
Total	59	14

3. RESULTS AND DISCUSSION

Studies showed that a Paleolithic diet associated with a physical training (aerobic and resistance) can be effective in to reduce fasting triglycerides, increased insulin resistance, lower resting heart rate, and higher maximum workload. This diet is rich in vegetables, fruits, seafood, lean meats, excluding dairy, grains, legumes, refined fats, sugar, and salt (OTTEN, Julia et al. 2019). In the study of Dinges, et al. (2022) focused on a personalized, home-based, medium-intensity physical training, coupled with tailored nutritional counseling and health-related information. In the end, all 251 patients in the program experienced improvements, including reduced diabetes and controlled blood pressure, both related to lifestyle.

Corroborating to Otten and Dinges, Bohm, et al. (2021) evaluated 19,664 diabetes patients and 11,648 non-diabetes in 737 centers in 40 countries and showed that moderate physical activity also brought significant benefits for individuals with diabetes compared to those without diabetes but with low physical activity levels.

Table 2. Separated papers according which a meal plan and physical training of moderate to high-intensity

Databases	meal plan	physical training
Scielo	0	1
Medline	1	3
PubMed	3	6
PEDro	0	1
Total	4	11

According this table was see a gap in the literature regarding specific diets for diabetics in association with physical exercise. As per our results, there is a significant body of research on physical activity for this demographic; however, there is a shortage of studies related to dietary plans coupled with physical activity. It is noteworthy that the combination of these two therapeutic tools has shown beneficial results for individuals with diabetes.

4. CONCLUSION

In summary, there is a noticeable difference in treatment outcomes for elderly individuals with both T2DM and cardiovascular risks. Dietary changes alone lead to improvements in body composition and weight loss. However, when combined with regular moderate-to-high-intensity aerobic exercises, this approach is essential for achieving both cardiometabolic and psychological benefits, encouraging a significant lifestyle shift.

Considering that both diseases share various pathophysiological mechanisms and risk factors, it is important to mitigate the gaps found such the lack of research about specific meal plan associate with physical exercise.

5. REFERENCES

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