

POSTER PRESENTATIONS

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Evaluating the Efficacy of Home-Based Exercise Program Versus Patient Education in Improving Glycemic Control in Patients with Type 2 Diabetes: A Randomized Controlled Trial Protocol

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ABSTRACT

Background and Objectives: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disorder characterized by poor glycemic control and physical impairments, which significantly impact the quality of life (QoL). The study aims to investigate the potential benefits of a home-based exercise program in improving glycemic control, physical functioning, and QoL in patients with T2DM when compared to an education program. **Methods:** The study will employ a single-blind randomized controlled trial (RCT) design. The intervention group will comprise 30 participants undertaking a 12-week home-based exercise program, which includes 30 minutes of aerobic exercise for five days a week along with two days of resistance exercise. Simultaneously, the control group, consisting of 30 T2DM patients matched for age, gender, and weight, will engage in a four-session education program, with each session lasting 60 minutes. The primary outcome measure will be glycated hemoglobin (HbA1c), while secondary outcomes will include changes in physical fitness parameters such as aerobic capacity, muscle strength, and body composition. These outcomes will be assessed at three time points: baseline, the sixth week, and the 12th follow-up. **Results:** Statistical analysis will be conducted to determine whether the exercise program exerts a statistically significant positive effect on the outcome measures. **Conclusion:** If the home-based exercise program proves to be effective, it has the potential to serve as a cost-effective intervention for patients with T2DM. This could minimize the need for physical visits to healthcare providers while positively impacting glycemic control, physical functioning, and QoL in this patient population.

Keywords: Exercise; Glycemic control; Patient education; Type 2 Diabetes; Quality of life

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