

Determination of immediate impact of exercises on plasma glucose values of type 2 dm patients

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Abstract

Exercises are recommended with strong evidences, in the management of type 2 diabetes mellitus (DM), to maintain blood glucose levels, and improve health related quality of life. This study was designed to determine the immediate impact of aerobic and resistance training exercises on plasma glucose values of type 2 DM patients. This is a prospective cross over study, conducted in the District General Hospital, Matale, Sri Lanka. A sample of 60 patients (41 females and 19 males) aged 37-75years were allocated to perform 30 minutes aerobic and resistance training exercise sessions on two separate days apart from one week with same warm- up and cool- down exercises. Blood glucose values were measured 30minutes prior and just after finishing the exercise session, using a glucometer. Mean (SD) age was 58 years (8.8 years) and mean (SD) BMI was 25.64 kg/m² (3.93). Mean diabetes duration was 8.25 years (7.6). Mean (SD) blood glucose difference for resistance training group was 51.08 mg/dl (32.61) and 38.30 mg/dl (29.77) for aerobic training group. The paired sample t test showed a significantly higher reduction in blood glucose following resistance training compared with the aerobic exercise session ($t=2.43$, $p= 0.018$, 95% CI 2.25 – 23.21). Resistance training was associated with blood glucose reductions of 25.58 % (95% CI 22.00 – 29.16), while aerobic training group were associated with blood glucose reductions of 20.71 % (95% CI 17.39 – 24.02). Both aerobic and resistance training exercises reduced blood glucose level in type 2 diabetes, but the improvement is greater with resistance training.

Biography

Wickramarachchi WAM has completed her higher diploma in physiotherapy at the age of 25 years from School of Physiotherapy and occupational Therapy, Sri Lanka and currently studying for the BSc in physiotherapy at University of Kelaniya, Sri Lanka. She is a physiotherapist, working at District General Hospital, Matale with thirteen years of working experience.



6th Global Conference on Physiotherapy, Physical Rehabilitation and Sports Medicine, October 23 -24, 2020

Citation: Wickramarachchi WAM, Determination of immediate impact of exercises on plasma glucose values of type 2 dm patients, Physiotherapy Congress 2020, 6th Global Conference on Physiotherapy, Physical Rehabilitation and Sports Medicine | October 23 -24, 2020, 09