

Exercise Improves Glycemic Control Among Patients with Type 2 Diabetes Mellitus: A Summary of Meta-analysis and Systematic Reviews

Dear Editor,

An optimal level and dose of physical activity are essential in the clinical management of type 2 diabetes mellitus (T2DM) and related health complications. Exercise training decreases glycated hemoglobin (HbA1c) levels to an extent that lessen the risk of T2DM-associated health complications among T2DM patients.^[1]

A well-supervised exercise training of >150 minutes per week leads to larger HbA1c drops, however, exercise training when combined with dietary modifications was associated with lower HbA_{1c} among patients with T2DM.^[2] Combined aerobic and resistance exercise could be more effective in improving glycemic regulation and reducing blood lipids in patients with T2DM.^[3]

A decrease in HbA1c is linked to exercise consistency, and the weekly volume of aerobic and resistance exercise training, combined and supervised. Consequently, exercise duration, intensity, and volume are key factors for glycemic control in patients with T2DM, consistent with a planned exercise training schedule.^[4] The results of a collective study that analyzed aerobic exercise and T2DM investigations showed a significant improvement in both HbA1c and peak VO₂ among patients with T2DM.^[5]

Apart from the improvement in glycemic control, exercise training leads to improvements in insulin

sensitivity and metabolic function among individuals with T2DM. Equally, resistance and aerobic exercises are effective in glycemic control among patients with T2DM. However, supervised, well planned and combined exercise training program for patients with T2DM that is achieved by dividing aerobic and resistance training into distinct sessions could be more effective in the treatment of T2DM and associated metabolic complications [Figure 1].

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Conflicts of interest

There are no conflicts of interest.

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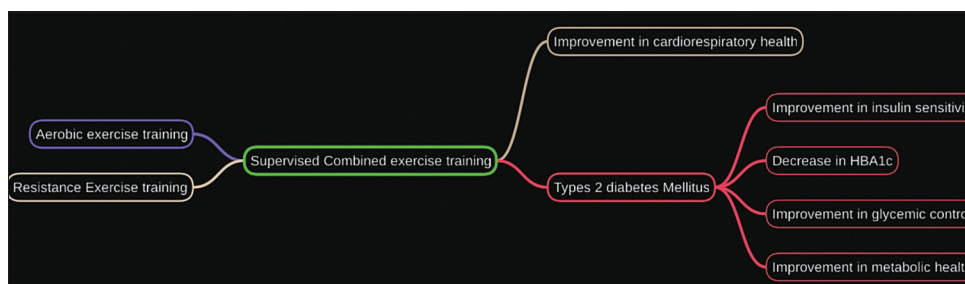


Figure 1: Health benefits of supervised combined exercise training among patients with type 2 diabetes mellitus

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