Impact of Burst Exercise on Cardiometabolic Status of Newly Diagnosed Type 2 Diabetics

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Physical activity is an integral part of diabetes rehabilitation. Historically, diabetes rehabilitation has employed low intensity, sustained exercise. Recent studies have demonstrated short-term cardiometabolic benefits of high intensity burst exercise in healthy volunteers. The impacts of burst exercise in diabetics have yet to be assessed. This study compared the impacts of burst and sustained exercises on cardiometabolic factors including: BMI, exercise adherence, cardiopulmonary fitness, blood sugar levels and lipid profiles in newly diagnosed diabetics. 76 patients were recruited from a local diabetes rehabilitation center. Patients were randomized into a control group prescribed routine sustained exercise and an intervention group prescribed a high intensity burst exercise regimen. All patients underwent routine blood tests, stress tests and logged exercise duration in logbooks. Data is still in the process of collection; this report represents the data from 40 of the 76 patients. Patients prescribed the burst regimen exercised 27% more than the control group ($p<0.01$). Burst exercise patients also showed a 2.3 fold greater improvement in HbA1c, a marker of blood sugar control ($p<0.01$). The intervention group also improved more in their lipid profile, BMI and cardiopulmonary fitness (as measured by stress testing). Even among patients who exercised similar amounts, greater improvements in biochemical parameters were noted in those randomized to burst exercise. In conclusion, the burst exercise regimen appeared to significantly improve the cardiometabolic status of newly diagnosed diabetic patients. This regimen may represent a simple and effective way to improve diabetes rehabilitation but requires longer-term validation of clinical outcomes.

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