Short bursts of high-intensity exercise does more for type 2 diabetes

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Short bursts of high-intensity exercise improved cholesterol, blood sugar and weight among Type 2 diabetes patients more than 30 minutes of sustained, lower-intensity exercise, according to research presented at the American Heart Association's Scientific Sessions 2015.

Researchers found that after three months of high-intensity exercise in 10-minute bursts done three times per day, five days a week, led to an average 0.82 percent decrease in three-month blood sugar patterns compared with just 0.25 percent among those who performed more sustained, lower-intensity exercise also five times per week.

Exercise is known to help reduce cholesterol and weight as well as manage Type 2 diabetes - all risk factors for heart disease. Historically, diabetes management programs have focused primarily on low-intensity, sustained exercise, said lead study author Avinash Pandey, an undergraduate student at the University of Western Ontario in London, Ontario, Canada.

"However, more may be accomplished with short bursts of vigorous exercise, in which patients achieve a higher maximum target heart rate, and may be easier to fit into busy schedules," Pandey said. "We also found that these 10 minute intervals may be easier to fit into busy schedules, since people randomized to that regimen were more consistent with exercise and ended up doing more exercise per week."

The study was conducted in 76 patients with Type 2 diabetes (70 percent

male, average age 67) who were recruited for the study shortly after their diagnosis. Patients were randomly assigned to either 30 minutes of exercise five days a week at 65 percent of their target heart rate or ten minutes of exercise three times a day, five days a week at 85 percent of their target heart rate.

Burst exercise patients actually ended up exercising more, and overall, experienced a 2.3-fold greater improvement in HbA1c levels as well as a three-fold reduction in body mass index—a measurement of height versus weight. Burst exercise patients also showed greater improvements in their cholesterol levels and stronger cardiac fitness, as measured by stress testing.

Researchers said it's unclear why shorter bursts of high-intensity exercise would lead to more significant improvements compared with sustained, lower-intensity exercise. One theory is that higher intensity exercise uses energy in a different way, suggests Pandey.

"We are hoping to continue looking at burst exercise and sustained exercise in larger and more diverse patient populations. With further study, burst exercise may become a viable alternative to the current standard of care of low-intensity, sustained exercise for diabetes rehabilitation."

Provided by American Heart Association