

Exercise boosts mental and physical health of heart failure patients

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Moderate exercise helps ease depression in patients with chronic heart failure, and is also associated with a small but significant reduction in deaths and hospitalizations, according to a large, international study lead by researchers at Duke University Medical Center.

The finding, published in the Aug. 1 issue of the [Journal of the American Medical Association](#), adds insight to the complex [relationship](#) between mental and physical health, and the role exercise may play in improving both.

"We do not know what comes first – heart disease or [depression](#) – but we do know the two are often related, and if depression gets worse, people have worse outcomes," said James A. Blumenthal, PhD, professor of psychiatry and behavioral sciences at Duke and lead author of the study. "Exercise has been shown to be safe for people with heart disease, and it also improves depression. These data show the combined benefits of exercise for this population include improved mental health and improved cardio-vascular health."

Clinical depression may affect as many as 40 percent of the 5 million people in the United States with [heart failure](#). Recent studies have linked depression with worse clinical outcomes for [patients](#) with myocardial infarction, unstable angina, coronary bypass surgery and heart failure.

In the current study, Blumenthal and colleagues set out to determine whether exercise would reduce depressive symptoms and improve other

clinical outcomes among patients with heart failure.

As part of the HF-ACTION trial sponsored by the National Heart, Lung and Blood Institute, the researchers enrolled 2,322 patients at 82 medical centers in the United States, Canada and France. Patients were randomly assigned to receive usual care, including necessary medications and a recommendation to exercise, or the usual care plus a supervised exercise regimen three times a week for 30 minutes. After three months, the exercise group transitioned to exercising at home for another nine months without supervision.

All patients underwent an initial physical stress test and filled out a questionnaire that measured depressive symptoms such as feelings of sadness, irritability, hopelessness and disturbed sleep. The tests were repeated every three months for the first year. Patients were asked to make quarterly follow-up clinic visits for the second year of the study, and then annual visits through year four of the trial.

The patients who participated in treadmill or stationary bike workouts showed greater improvement of their cardio-pulmonary function, as measured by peak oxygen consumption and longer duration of exercise, than patients who received usual care. Small improvements accrued at both three months and 12 months.

Depression scores were also better for participants in the exercise group compared to those who received standard care. The cardiac patients who exercised saw their average depression scores drop 1.75 points in the first three months, with lower scores signifying a healthier outlook. Patients in the usual care group dropped almost 1 point. Similar results were maintained throughout the 12-month assessment.

Exercise also made a small but notable difference in the risk for hospitalizations and [death](#) over the study's follow-up period of an

average of 2.5 years. Sixty-six percent of those in the exercise group died or were hospitalized over the follow-up period, compared to 68 percent of usual care patients.

"This study shows that [exercise](#) is associated not only with [physical health](#) benefits, but important mental health benefits as well," Blumenthal said. "It doesn't require intensive training for a marathon to derive benefits. We're talking about three, 30-minute sessions for an accumulated 90 minutes a week. And the results are significant improvements in mental health, reduced hospitalizations and fewer deaths."

More information: *JAMA*. 2012;308[5]:465-474.

Provided by Duke University Medical Center

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