

Digital health tool helps cardiac rehab patients shed more pounds

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Adding a digital health tool to traditional cardiac rehabilitation appears to help people recovering from a heart attack lose significantly more weight in a relatively short period of time, according to research scheduled for presentation at the American College of Cardiology's 65th Annual Scientific Session.

In fact, patients using specially designed health tools on their smartphones and through a Web-based portal lost four times as much weight compared with those undergoing 12 weeks of cardiac rehabilitation alone. This randomized controlled trial is the first in the U.S. to look at how adding the use of mobile and wireless devices concurrently with cardiac rehab might improve health outcomes, according to researchers.

"We were surprised by the magnitude of difference between the two groups," said Robert Jay Widmer, M.D., Ph.D., of the Mayo Foundation for Medical Education and Research, and lead author of the study.

"These results are exciting because they demonstrate improvement in cardiovascular risk factors over and above guideline-based cardiac rehabilitation."

While the actual weight loss observed in this study was small—an average of 2 pounds in the cardiac rehab group compared with 9 pounds in the digital health intervention group—experts say every bit matters for these patients as previous research has shown that people who lose weight tend to have fewer cardiac events in the future.

Widmer said the trend in weight loss in the intervention group is likely explained, in part, by significantly improved dietary habits and frequent reporting via the program. These patients also exercised for an average of 40 more minutes a week, a difference that was not statistically significant.

The study included 80 patients—68 years old, on average—who were eligible to take part in cardiac rehab at Mayo Clinic following acute coronary syndrome, including heart attack and unstable angina. Patients were randomly assigned to usual care or cardiac rehab coupled with a digital health intervention that included semi-weekly educational messages, videos and articles with accompanying quizzes about heart healthy lifestyles, tips and platforms to track and log exercise and dietary habits. Researchers collected participants' weight and dietary habits at baseline and after 90 days.

Study participants attended 30- to 90-minute cardiac rehab sessions, focused mainly on exercise, three times per week. Those in the intervention group were asked to log in twice a week to record their exercise and [dietary habits](#) and retrieve educational information on healthy lifestyles, but many did so daily.

Instead of using commercially available mobile health solutions, cardiologists at Mayo Clinic compiled information and recommendations typically given during [cardiac rehab](#) to help patients strengthen their heart health and improve [cardiovascular risk factors](#) to prevent subsequent events. They then partnered with Mayo Clinic's Information Technology department to incorporate it into an app and Web-based program that patients could use remotely.

"It's an example of how clinical expertise and know-how can be married with IT, which is important especially amid consumers' rapid uptake of apps," Widmer said. "It may be that these patients felt more connected

to their care, as if someone had a finger on their pulse, figuratively."

The health tool essentially functions as an extension of a patients' heart team, helping to hold them accountable for eating right and staying active outside of the clinic. Overall, it seems that by adding digital health tools, there is a trend toward better adherence to recommendations.

"With the poor rates of adherence to [cardiac rehabilitation](#) and increasing use of mobile/digital technologies, it is plausible that digital health and mHealth could offer a proven preventative solution to help patients with cardiovascular disease," Widmer said. "The integration of technology into the clinical practice has the potential to affect rehospitalizations of these patients too."

Cardiac rehab programs—long recommended by the American College of Cardiology and other groups—are offered in many hospitals and medical centers in the U.S. and elsewhere. These 12-week programs are tailored to the individual patient to help lower the risk of future heart problems. Cardiac rehab includes a mix of supervised exercise, nutrition counseling, stress management, smoking cessation assistance and education about the disease process, including how heart patients can take control of their own health and improve their outcomes.

This study is limited in that it is a single center trial with only 80 [patients](#) who had to have access to the Internet. In addition, any trials that use digital health platforms need to keep pace with advancing technologies, Widmer said. Larger clinical trials are needed to further validate these findings, and to determine the sustainability of the results.

More information: The study, "Digital Health Intervention During Cardiac Rehabilitation Enhances Weight Loss," will be presented on April 2, 2016, at 11:45 a.m. CT/12:45 p.m. ET/5:45 p.m. UTC at the American College of Cardiology's 65th Annual Scientific Session in

Chicago. The meeting runs April 2-4.

Provided by American College of Cardiology

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