

Balance training better than tai chi at improving mobility among older adults

December 11 2006

Physicians and physical therapists in recent years have explored whether tai chi, balance programs and fitness routines can help decrease the likelihood that older adults will fall and injure themselves. Many of these programs have shown promise, but their relative value is still open to debate.

Now, a study from researchers at the University of Michigan Health System and the Veterans Affairs Ann Arbor Healthcare System suggests that a program focusing on increasing step length and speed is more effective at improving mobility and balance than tai chi. While tai chi – a Chinese martial art form consisting of slow, rotational movements and weight-shifting – offers many benefits, the researchers say, they're not as great as those produced by a balance-training program.

"Our results indicate that in older adults with at least mild balance impairment, Combined Balance and Stepping Training (CBST) results in modestly greater improvement in balance, stepping and functional mobility compared to tai chi training," says senior author Neil B. Alexander, M.D., professor in the Division of Geriatric Medicine, Department of Internal Medicine, at the U-M Health System, and acting director of the Geriatric Research, Education, and Clinical Center, VA Ann Arbor Healthcare System.

"What this tells us is that if you want to improve your ability to balance and walk, try a program that focuses on improving balance while moving and the ability to step quickly and further," he says of the study, which

appears in the new edition of the Journal of the American Geriatrics Society. "Data from this study can help determine which balance training program may be most optimal to improve balance and eventually reduce falls. Among older adults, falls are becoming an increasing problem, so it is important that we find ways to help prevent them in the first place."

This is the first comparison of two balance training programs in which each type of program has been proven to reduce falls, notes lead author Joseph O. Nnodim, M.D., Ph.D., clinical instructor in the Division of Geriatric Medicine at the U-M Health System and a research scientist at the VA Ann Arbor GRECC.

The researchers add that the CBST program requires no specialized equipment or advanced training for the instructor. "It's a very easy program to implement," says Alexander, director of the Mobility Research Center at the U-M Geriatrics Center.

The study lasted 10 weeks, and participants did three one-hour sessions a week with an instructor. Of the 162 people in the study, 81 were in the CBST group and 81 were in the Tai Chi classes. All were ages 65 and older.

Participants performed several tests at the beginning and end of the study, including balance measures in which they were timed while they stood with one foot forward and while they stood on one leg – tests called tandem stance and unipedal stance. They also were measured while stepping as far as they could in three directions: forward, to the side and backward (the maximal step length test). Another measure had them take a series of steps and return quickly to the starting position (rapid step test), and a final test measured how quickly they rose from sitting in a chair, walked three meters, turned and returned to the seat (timed up and go).

After initial testing, the participants were assigned to one of the two fall-prevention training options. The CBST classes included activities in which participants moved their upper bodies while bouncing and catching a ball; increasing the complexity of ambulatory tasks, such as changing direction to walk forward or laterally; walking on a plank; turning, bending and stepping on and off curbs; stepping over obstacles; and more. The tai chi classes focused on body alignment; weight shifts, including standing on one leg; hip and ankle rotations; stepping motions backward, forward and laterally; and more. Emphasis was on awareness of one's body alignment, relaxation and distribution of weight, and 12 sequences from the tai chi Yang Short Form were practiced.

At the end of the 10 weeks, improvements in unipedal stance were roughly the same between the two groups. But compared to tai chi, CBST had greater improvements in the timed up and go measure (9.4 percent faster than the tai chi group); and in the two step measurements, (9.8 percent higher in the CBST group for the maximal step length test, and 5.4 percent higher in the rapid step test).

"This research is very promising in our efforts toward reducing falls among older adults," Nnodim says. "We would like future research to include a comparison of fall rates in response to these two programs so we can develop an even better sense of what works best in the prevention of falls."

Source: University of Michigan Health System

Citation: Balance training better than tai chi at improving mobility among older adults (2006, December 11) retrieved 18 April 2024 from <https://medicalxpress.com/news/2006-12-tai-chi-mobility-older-adults.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.