

Falls: Tai Chi May Be Remedy

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In a small, randomized study, tai chi showed promise for reducing the risk of falls among stroke survivors.

Over a 12-week period, there were five falls among 30 survivors who practiced tai chi, versus 15 falls among 28 survivors assigned to usual care, Ruth E. Taylor-Piliae, PhD, RN, assistant professor at the University of Arizona College of Nursing in Tucson, reported at the International Stroke Conference in Honolulu.



There was a similar rate of falls among 31 survivors who participated in SilverSneakers, a national fitness program for older adults. Data were analyzed using χ^2 statistics with Yate's continuity correction.

While the findings fell short of statistical significance, post-hoc analysis indicated that tai chi was associated with significantly fewer falls than usual care ($\chi^2=4.29$, $P=0.04$), she said.

There was no significant difference in the fall rate between patients assigned to tai chi or the SilverSneakers program ($\chi^2=2.61$, $P=0.11$) or between survivors assigned to SilverSneakers or usual care ($\chi^2=0.29$, $P=0.59$), she said here at the International Stroke Conference.

Neurologists not involved with the research had mixed reactions to the findings.

American Stroke Association spokesperson Lee H. Schwamm, MD, a professor of neurology at Harvard Medical School, said, "Any structured exercise program is very likely to reduce falls post stroke. An exercise program that focuses specifically on balance like tai chi very likely further reduces the incidence of falls."

Taylor-Piliae agreed with his assessment, noting that people learn how to shift their weight from one leg to the other as they move their arms, yet still maintain their balance. Also, tai chi teaches people to be mindful, she said.

People in the study practiced Yang-style tai chi. It is the most popular of five styles used in the U.S. because of its emphasis on health benefits, both physical and psychosocial, Taylor-Piliae said. But she believes any form of tai chi will help.

Schwamm told *Medpage Today* that the study was likely underpowered to detect differences between the three interventions. "With more power, I think we would see a benefit in the tai chi group," he said.

But American Stroke Association spokesperson Larry B. Goldstein, MD, director of the Duke Stroke Center at Duke University Medical Center, took issue with the statistical analysis.

For starters, "you're not supposed to perform a post-hoc analysis if the findings [of the main trial] are not significant," he said. Additionally, had the post-hoc analysis been performed properly, correction for the multiple interventions would have again led to nonsignificant findings, according to Goldstein.

Taylor-Piliae said that effective interventions for preventing falls among stroke survivors are critically needed as survivors experience seven times as many falls annually as healthy adults of the same age.

"These falls can cause hip and other fractures, loss of mobility and an increased fear of falling that can result in social isolation or dependence," she said.

Action Points

Note that this study was published as an abstract and presented at a conference. These data and conclusions should be considered to be preliminary until published in a peer-reviewed journal.

In this randomized prospective trial, tai chi intervention decreased fall rates compared with usual care among stroke survivors.

The researchers decided to put tai chi to the test, as it has been shown to significantly reduce falls in healthy older adults who have not had a stroke, Taylor-Piliae said.

They recruited 89 community-dwelling survivors 3 or more months post stroke, randomizing them to hour-long classes of tai chi three times weekly, an hour-long SilverSneakers exercise class that focused on improving muscle strength and range of movement three times weekly, or usual care. Patients in the usual care group received written information on local physical activity classes as well as weekly phone calls encouraging them to be physically active.

All participants were interviewed weekly to gather fall data over the 12 weeks. Falls were defined as "events in which subjects end up on the floor or ground when they did not expect to." Data on near-falls -- defined as "events in which subjects are able to catch themselves and regain balance without falling" -- was also collected.

A total of 46% of patients were women, with a mean age of 70. The majority reported an ischemic stroke (80%), were white/European-American (79%), married/partnered (60%), college-educated (79%), and retired/unemployed (93%).

At baseline, the three groups were well balanced in terms of self-reported patient characteristics, including age, gender, income, type of stroke, hemiparesis, mini-mental state exam scores and modified Rankin scores.

Over the 12-week study, participants reported a total of 34 falls, most commonly caused by slipping or tripping (21%) or walking too quickly (18%). All occurred at home, yet only four people sought medical treatment for their fall.

While there was no statistically significant difference in the number of near-falls between the three groups, "the tai chi group had many more near-falls numerically," Taylor-Piliae said. "That's not surprising, that tai chi would help people to regain balance," she said.

There was no significant difference in falls according to gender.

Taylor-Piliae received an AHA National Scientist Development Grant. Her co-authors made no financial disclosures.

Schwamm and Goldstein reported no financial disclosures.

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