From the lab to the real world: program to improve elderly mobility feasible in community

July 16 2018

Mary Lou Linehan, AKA "Sparkles", shares a laugh with her classmates during an exercise class at the Somerville Council on Aging in Somerville, Mass. Credit: Alonso Nichols/Tufts University

Immobility in old age can lead to lower independence and quality of life and increased risk for falls and chronic disease. In the Lifestyle Interventions and Independence for Elders (LIFE) study, a large multicenter clinical trial, researchers found that a regular program of structured physical activity performed in the clinical setting could reduce mobility loss in older adults. Could this program work in a real-world environment?

In a pilot study conducted at the Somerville Council on Aging in Somerville, Mass., a team led by researchers from the Jean Mayer USDA Human Nutrition Research Center on Aging (USDA HNRCA) at Tufts University for the first time attempted to translate the physical activity benefits of the LIFE clinical trial to a community senior center setting. The results were published as a Brief Report in the *Journal of Gerontology: Medical Sciences* on July 16.

The pilot study revealed that bringing the physical activity intervention from a controlled clinical environment into a community-based setting for older adults, with minimal study exclusions, was safe and feasible. Participants who attended at least 25 percent of the scheduled weekly physical activity classes demonstrated sustained improvements in their mobility over the six-month study period. Further, the researchers noted that the physical activity program was associated with increases in executive cognitive function, improvements in quality of life, and a notable reduction (approximately 60 percent) in the occurrence of falls. No serious adverse events occurred among physical activity participants.

"The overarching objective of the pilot study was to translate the physical activity program from a rigorously controlled clinical setting to a representative, real-world environment for older adults. We wanted to test whether the physical activity intervention could be safely and effectively integrated within the existing infrastructure of the senior center," said first and corresponding author Kieran F. Reid, Ph.D.,

M.P.H., scientist in the Nutrition, Exercise, Physiology, and Sarcopenia Laboratory at the USDA HNRCA. "The results are very encouraging."

The six-month pilot study enrolled 40 adults age 65-89 years with mobility limitations. Half were randomly assigned to a structured program of walking, strength, flexibility and balance training; half participated in a health education control group. Adherence rates, mobility levels, cognitive function, quality of life, depressive symptoms, and risk of falling were compared between the two groups after six months.

"With an increase in prevalence of mobility limitations in a growing aging population, introducing effective physical activity interventions to a community-setting can lead to big changes for these vulnerable populations," said senior author Roger A. Fielding, Ph.D., senior scientist and director of the Nutrition, Exercise, Physiology, and Sarcopenia Laboratory at the USDA HNRCA.

The authors note some limitations of the study, including the small sample size and short duration of the intervention. The team is developing a larger-scale translational study to demonstrate the impact of a physical activity intervention in a variety of community-based settings.

More information: Kieran F Reid et al, Translating the Lifestyle Interventions and Independence for Elders Clinical Trial to Older Adults in a Real-World Community-Based Setting, *The Journals of Gerontology: Series A* (2018). DOI: 10.1093/gerona/gly152

Provided by Tufts University