Square-Stepping Exercise towards Health Improvement

Written by Kristian Partington

Care partners working alongside older adults in long-term care or retirement settings are continually searching for new ways to reduce the risk of injury through falls prevention. Addressing the risk of depression and mitigating the symptoms of dementia is also a big priority.

From June 2016 to February 2017, a research group from Western University in London led by Dr. Robert Petrella paired up with the Program for Active Living (PAL) teams in four Schlegel Villages to assess a physical activity program with the potential to address all three concerns.

Square-Stepping Exercise (SSE) is essentially a memory game where an instructor demonstrates a stepping pattern across a gridded mat and participants must remember and repeat the patterns on their own. The program has been shown to improve memory and thinking skills in adults, and the research team was eager to learn through the Mind-Fun Study, whether SSE would work in retirement and long-term care. They wanted to assess how the program might improve mood and personal expressions, memory and thinking skills, walking characteristics, and balance in residents.

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but the research did show benefits for residents living with dementia. Depression was lessened and residents experienced fewer symptoms like delusions over the 12 week study period. Despite that fact that the research didn’t highlight improvements for all residents, feedback from the research team and those involved in the study were promising.

“We feel that square-stepping exercise has the potential to improve social engagement, physical activity and cognitive function,” says research team member Erin Shellington, a PhD Candidate in kinesiology at Western University. “The kinesiologists involved in the study reported that the Square-Stepping Exercise program had a positive social impact on participants. Residents with dementia were more socially engaged with peers, and the residents worked together to develop supportive group dynamics and peer coaching.”

The study involved a fairly small number of residents, and ran for a short period of time. The research team suspects that if the program continued over a longer period of time, more benefits would have been seen across all participants.

“In order to improve the overall health and quality of life of residents living in retirement living and providing older adults with the best care in late life, we need to research on the best ways to do so,” Erin says. “The population of older adults continues to increase and the need for innovative solutions to keep older adults healthy and independent needs further investigation. Collaborating with long-term care and retirement living allows the residents and team members to have an interest and involvement in changing health care for the better in addition to providing more interesting and stimulating programs.”

Collaboration really is the key. Without the support of the Villages and the participants, the research team wouldn’t be able to evaluate this program and explore whether it worked well in retirement and long-term care settings. The research team hopes SSE will become a regular part of PAL in all villages and would be eager to continue the study to learn more about whether the program is of ongoing benefit.

For more detailed information on the results of the study please contact Erin at eshellin@uwo.ca.