

The effects of stepping exercise on stepping performance, muscle strength and balance of people living with mild to moderate dementia: a report on preliminary results

Aims: To examine the effects of a 12-week step exercise program on the stepping performance, lower limb muscle strength and balance of people living with mild to moderate dementia.

Method: Community-dwelling individuals who are (1) 65 years or older; (2) able to walk independently indoor and outdoor without any walking aid or with walking stick; and (3) diagnosed with mild to moderate dementia were recruited. During each 30-minute exercise session, the participants were asked to take forward, sideway and backward steps on target panels while avoiding other distracting panels on the floor repeatedly following the instructions of an exercise instructor. Their stepping performance, muscle strength and balance were evaluated at week 0, 12, 24 and 36 weeks, and the program was conducted between week 24 and 36.

Results: Fifteen participants (mean age: 81.0 ± 7.1 ; mean MoCA: 13.5 ± 5.1) have been recruited so far. Up to mid-November 2021, these participants have finished 8 weeks of the program. Their attendance so far is 63%. No drop-out and adverse event has been reported. We expect that 60 participants will be recruited for this study, and we will be able to evaluate the effects of this program on the participants.

Conclusion: The step exercise program seems to be feasible and acceptable for people living with mild to moderate dementia. More data about the effects of this program on the stepping performance, lower limb muscle strength and balance will be available in mid-2022.