

*Abstract*

# The Effect of a Multimodal Intervention on Mobility and Fall Risk in Elderly Care Residents <sup>†</sup>

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**Abstract:** **AIM:** Aging has been associated with reduced physical performance and morbidity. Living in a residential care home may be beneficial with regard to long-term medical assistance, but the diminished fundamental or instrumental daily activities further contribute to the deteriorated physical health and fall risk. Therefore, the aim of this study was to implement a motivation program to sustain and potentially increase physical activity in residential settings. **MATERIAL & METHOD:** Thirteen female residents of the Larissa Municipality Elderly Care Nursing Home (17% of bed capacity), 61–92 years old, with mild cognitive impairment (MMSE score 11–20) and diverse health conditions, participated in this pilot program. The intervention lasted from September 2018 to June 2019 and included two practical sessions of field walking, geriatric NHS workouts, plant care, and creative artwork per week. The quantitative and descriptive elements of STEADI battery were used to assess physical performance at the beginning and end of the intervention. **RESULTS:** All participants complied with gardening activities, half were in full compliance with the bi-weekly session schedule, and two adopted independent exercise activities. No participant was free of fall risk either at the beginning or at the end of the intervention, and 6 incidents were recorded concerning 5 people. One individual achieved finally the TUG goal of 12 s, but overall the shift of test performance did not reach statistical significance ( $p = 0.196$ ). Leg strength and endurance score were above the average score for age in another case, and no significant change was observed during the study period ( $p = 0.738$ ). Contrariwise, balance was significantly improved ( $p < 0.001$ ), and half of the participants were able to complete the tandem or the single foot stand stage. **CONCLUSIONS:** A multidisciplinary approach may be effective in promoting physical performance indices, and STEADI tools are sensitive to such changes. However, seasonal infections, chronic conditions, and medication have a severe impact on leg strength and walking speed, and occasionally may mask the beneficial effect of exercise in the elderly, even to the point of an individual not being able to commence the assessment.

**Keywords:** elderly care residents; fall risk; mobility; multimodal intervention



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