



## The effects of an 8-week supervised versus unsupervised combined home balance-resistance exercise program on balance, functional mobility, and fear of falling in older adults with a history of falls

### Poster Presentation

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### Abstract

**Introduction:** Age-related physiological, functional and psychological changes are typically accompanied by a decrease in functional ability resulting in balance impairment and an increased risk of falling in older adults (1,2). Supervised balance and resistance exercises have demonstrated good efficacy for falls prevention in healthy older adults (3). However, the efficacy of these exercises on balance, functional mobility, and fear of falling in older adults with a history of falls require further investigation. Therefore, the aim of this study was to investigate the effect of supervised versus unsupervised combined home balance-resistance exercises on balance, functional mobility, and fear of falling in older women with a history of falls.

**Methods:** We recruited 36 older women (60 to 75 years) with a history of at least one fall in the previous year. Participants were randomly allocated to three groups; supervised combined home balance-resistance exercise, unsupervised combined home balance-resistance exercise, and control group. Twenty-four exercise sessions were conducted (three sessions per week) within 8 weeks. A training session lasted 60 minutes. Participants in the control group did not receive any exercise perception and continued their normal daily activities. Balance (Berg Balance Scale), functional mobility (Timed Up and Go and Sitting and Rising Test) and fear of falling (The International Questionnaire of Fall Efficiency) were the primary outcome measures.

**Results:** After 8-weeks, participants in supervised combined home balance-resistance exercise group experienced significant improvements in Berg Balance Scale, Timed Up and Go, and Sitting and Rising Test ( $p \leq 0.05$ ). Supervised exercise group reported significantly reduced fear of falling ( $p \leq 0.05$ ) exercise program in older women with a history of falls, compared to unsupervised group.

**Conclusion:** Supervised combined home-based balance-resistance is more effective than is unsupervised home exercises in improving balance, functional ability and reducing the risk factors related to falling among older women with a history of fall.

### Keywords

Ageing; Balance; exercise; Fall; Home-based; supervised training

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