

**Title of Intervention:** Exercise and Balance Training for Older Women

**Intervention Strategies:** Individual Education

**Purpose of the Intervention:** To improve postural control of older women

**Population:** Older women

**Setting:** Residential care facilities in Finland; home-based, health care facility-based

**Partners:** Health care facility administrators

**Intervention Description:**

- **Group Education:** The exercise group attended 20-30 minute individualized dynamic balance exercise sessions on a force platform balance measurement and training device (Good Balance) three times a week for four weeks. Exercise time was gradually increased from 20 to 30 minutes during the first 2 weeks of training. The goals of the training were to teach the participants to control the movement of the center of pressure. They were also challenged to adapt postural control. The aim was to use the same structure of balance exercises, but to accommodate them according to each participant's physical performance level in order to challenge their balance abilities.

**Theory:** Not mentioned

**Resources Required:**

- Staff/Volunteers: Trainer
- Training: Not mentioned
- Technology: Not mentioned
- Space: Exercise space
- Budget: Not mentioned
- Intervention: Good Balance system
- Evaluation: Diaries, computer

**Evaluation:**

- Design: Randomized controlled trial
- Methods and Measures:
  - Interviews assessed possible fear of falling among subjects.
  - Balance was measured using the Good Balance system, which included a platform connected to a computer to measure subjects' balance while standing on the platform. The tests performed on the Good Balance system were referred to as standing balance tests in the study. Dynamic balance tests included tests in which the subjects were asked to move their center of pressure along a track shown on a computer screen. The performance time and distance were measured as the result. The Berg Balance Scale was used as a functional balance measure, rating balance of individuals performing 14 different tasks.

**Outcomes:**

- **Short Term Impact:** The exercise group reported a decrease in the fear of falling compared to baseline.
- **Long Term Impact:** The exercise group showed improvement after the training period in performance time and distance of all dynamic force platform balance tests. The risk of falling during the 12 month follow up was lower in the exercise group compared with the control group indicating that balance training had a significant preventive effect. The exercise group reported an increased level of physical activity.

**Maintenance:** Not mentioned

**Lessons Learned:** Positive effects of visual-feedback-based balance training in frail older women living in residential care homes were found in this intervention. Specific balance training can significantly reduce the risk of falling in frail older women living in residential care facilities.

**Citation(s):**

Sihvonen S, Sipila S, Taskinen S, Era P. Fall incidence in frail older women after individualized visual feedback-based balance training. *Gerontology*. Nov-Dec 2004;50(6):411-416.

Sihvonen SE, Sipila S, Era PA. Changes in postural balance in frail elderly women during a 4-week visual feedback training: a randomized controlled trial. *Gerontology*. Mar-Apr 2004;50(2):87-95