

Title of Intervention: A Multifaceted Intervention on Falls in Nursing Home

Intervention Strategies: Provider Education, Group Education, Individual Education, Environments and Policies

Purpose of the Intervention: To reduce falls and injuries among older adults

Population: Individuals aged 60 and older

Setting: Long-term care (LTC) institutions; health care facility-based

Partners: Not mentioned

Intervention Description:

- **Provider Education:** Staff training and feedback in the form of a 60-minute course and written information on incidence and consequences of falls. The training included information on modifiable risk factors and other preventive measures. The training course was performed at the beginning of the study. Ward received monthly feedback on fallers, fall rates, and severe injuries. Caregivers could discuss problems during the visit of the study nurse and use a telephone hotline at any time during the study period.
- **Group Education:** A group exercise program consisting of a combination of balance exercises and progressive resistance training with ankle weights and dumbbells was provided throughout the study period. Exercise sessions were held for small groups twice a week. The program consisted of 20 minutes of balance exercise in a standing position and walking if possible. The program included all major muscle groups of the upper and lower extremities. The forms were done in two sets of repetitions. The instructors increased the load as tolerated according to the 10RM.
- **Individual Education:** All residents received written information on fall prevention. A personal consultation on fall prevention performed by a nurse or an exercise instructor was offered to all residents not chair- or bed-bound.
- **Environments and Policies:** An environmental hazard check was performed and the results were discussed with staff and the nursing home administrators. The main emphasis for modifications was on appropriate lighting, chair and bed height, floor surfaces, room clutter, additional grab bars for toilets and bathrooms and proper use and maintenance of walking aids. Hip protectors were offered to all residents who could stand at least assisted or who occasionally tried to rise from a chair unattended.

Theory: Not mentioned

Resources Required:

- Staff/Volunteers: Exercise instructor
- Training:
- Technology: Not mentioned
- Space: Exercise room
- Budget: Not mentioned
- Intervention: Hip protectors, weights, resources for environmental changes, written information on falls and fall protection, environmental hazard checklist
- Evaluation: Resident Assessment Instrument, stopwatch, fall calendar sheets

Evaluation:

- Design: Group randomized trial
- Methods and Measures:
 - Physical performance was measured with time to rise five times from a chair, distance walked in 6 minutes and time span and capacity to stand 10 seconds in a standardized position.
 - The use of hip protectors was checked monthly by a study nurse and documented in three categories (always, sometimes, never).
 - Resident Assessment Instrument was used to assess information.
 - Fall calendar sheets were filled out daily by trained nurses to keep track of

- Incidence density rate of falls, fallers, frequent fallers and fractures.
- Number, proportion, incidence density rate of falls, fallers, frequent fallers, hip fractures, and non hip fractures
- Fractures - had to be confirmed by radiological examination. Accompanying fracture audit was performed in all regional hospitals to avoid missing cases.

Outcomes:

- Short Term Impact: Participants showed marked improvement in time to rise from a chair, walking distance and capacity to stand in more challenging positions. No hip fracture occurred while the participants wore the hip protector properly. Incidence density rate of falls decreased in the first three months in the intervention group. Similar trends were not observed in the control group.
- Long Term Impact: Non significant difference for hip fractures or other fractures

Maintenance: Not mentioned

Lessons Learned: The incidence density rate of falls and fallers differed considerably between the control and intervention groups.

Citation(s):

Becker C, Kron M, Lindemann U, et al. Effectiveness of a multifaceted intervention on falls in nursing home residents. J Am Geriatr Soc. Mar 2003;51(3):306-313.