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Falls in older community-dwelling women and men: risk factors and safety strategies

Fall risk awareness, fear of falling, and preferred exercise properties from a gender perspective

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Abstract

The aim of the thesis was to gain a deeper understanding of the risk factors previous falls, fear of falling (FoF), and gender, and to explore safety strategies in older community-dwelling people in terms of fall risk awareness and safety precautions, and to identify motives for exercising and preferred exercise properties. A gender perspective was used throughout the thesis.

To determine the impact of the risk factors on future falls and injurious falls, a cross-sectional design was used combined with longitudinal data. Baseline data from 230 community-dwelling people over 75 years were collected with questionnaires and performance-based tests. FoF was measured with the question "Are you afraid of falling?". Monthly fall calendars were collected for one year (monitoring year). Based on status on falls, participants were classified as those with i) no falls (n=119), ii) 1 non-injurious fall (n=51), iii) ≥2 non-injurious falls (n=40), and iv) ≥1 injurious fall (n=20). Data were linked to data from an injury database on registered injurious falls for a period of about 5 years (long-term follow-up). Andersen-Gill method of Cox regression for multiple events was used to estimate the risk of future injurious fall events. To find relationships between FoF, gender, and recurrent (two or more) falls, a general log-linear analysis was performed. Associations between FoF and the components of the International Classification of Functioning (ICF) were explored with a structural equation model. To explore fall risk awareness and safety strategies, and to identify motives and preferred exercise properties, qualitative study design was used. Multistage focus groups were held with 18 community-dwelling people (10 women and 8 men) between 70 and 80 years. Transcriptions were analysed with qualitative content analysis.

Fourty-eight per cent fell during the monitoring year, 23% recurrently. Compared to men, women reported FoF more often, but did not experience more recurrent falls, and no more injurious falls. FoF was significantly associated with the components *Activity/Participation* and *Personal Factors* in both women and men, but in opposite directions on *Personal Factors*. During the long-term follow-up, 91 injurious falls were registered in 70 participants (30%). Those with injurious falls during the monitoring year were at significant risk of experiencing new injurious falls in long-term (HR 2.78; 95% CI 1.40-5.50). Analyses from the multistage focus groups gave three categories: Facing various feelings; Recognizing one's fall risk; and Taking precautions, and a comprehensive theme: *Safety precautions through fall risk awareness*. Six categories identifying preferred exercise properties: Motives to start exercise; Barriers to start exercise; Exercise characteristics; Confirmation; Spirit lifters; and Maintenance tricks. All categories included sub-categories. There were greater variations among women and among men than between women and men in both studies.

Community-dwelling people over 75 years who have experienced an injurious fall are at high risk of sustaining new injurious falls the forthcoming five years, and should be offered multifactorial fall risk assessments with targeted interventions to optimize the prevention of future falls. The question "Are you afraid of falling?" has no predictive value for future falls, and the answer may be strongly gendered. It should therefore be avoided in clinical practice and research in community settings. The participants of the qualitative studies implicitly and explicitly described how they had become aware of fall risks in everyday life, and both women and men took precautionary actions. Raised fall risk awareness was achieved by several channels including the media, and by meeting with peers and professionals with expertise in falls prevention. A wide variety of preferred exercise properties in the context of falls prevention were identified among the older community-dwelling people. The variations were greater among women and among men than between women and men. The results should be taken into consideration when offering exercise-based falls prevention interventions to older people. The results from this thesis indicated that measures can be taken on a broad front in order to reduce the damage from injurious falls in older community-dwelling people. A gender perspective is warranted for in clinical practice and future research as it may broaden the understanding of gender differences and similarities when implementing falls prevention activities.

Keywords

Older people, Community-dwelling, Accidental falls, Risk factors, Fall prediction, Fall risk awareness, Safety precautions, Exercise, Falls prevention, Preferences, Qualitative research

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