



## Combined resistance and balance-jumping exercise reduces older women's injurious falls and fractures: 5-year follow-up study.

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Abstract:

previously, a randomised controlled exercise intervention study (RCT) showed that combined resistance and balance-jumping training (COMB) improved physical functioning and bone strength. The purpose of this follow-up study was to assess whether this exercise intervention had long-lasting effects in reducing injurious falls and fractures.

five-year health-care register-based follow-up study after a 1-year, four-arm RCT.

community-dwelling older women in Finland.

one hundred and forty-five of the original 149 RCT participants; women aged 70-78 years at the beginning.

participants' health-care visits were collected from computerised patient register. An injurious fall was defined as an event in which the subject contacted the health-care professionals or was taken to a hospital, due to a fall. The rate of injured fallers was assessed by Cox proportional hazards model (hazard ratio, HR), and the rate of injurious falls and fractures by Poisson regression (risk ratio, RR).

eighty-one injurious falls including 26 fractures occurred during the follow-up. The rate of injured fallers was 62% lower in COMB group compared with the controls (HR 0.38, 95% CI 0.17 to 0.85). In addition, COMB group had 51% less injurious falls (RR 0.49, 95% CI 0.25 to 0.98) and 74% less fractures (RR 0.26, 95% CI 0.07 to 0.97).

home-dwelling older women who participated in a 12-month intensive multi-component exercise training showed a reduced incidence for injurious falls during 5-year post-intervention period. Reduction in fractures was also evident. These long-term effects need to be confirmed in future studies.

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