

Embedding balance training in daily routines (LiFE): a randomised trial of fall prevention interventions

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Introduction Our lifestyle encourages us to find ways of doing things more efficiently and with a minimum of effort. We use remote controls, raise chair heights so it is easier to stand up, and drive or be driven to most places. Occupational therapy with older people is dominated by the use of compensatory techniques and much of our safety advice encourages avoidance behaviour. There is much less focus on using daily activity to improve health and well being. Yet there is strong evidence that maintaining and improving balance, and to a lesser degree strength, are major contributors to reducing falls. In the innovative LiFE approach balance and strength activities are individually tailored for the older person and embedded within their daily routines.

Objectives We tested the efficacy of both the new LiFE approach and a structured balance and strength exercise program compared to a control flexibility gentle exercise program in reducing falls with community residing older people.

Methods A 3-arm randomized controlled trial was conducted with a 12 month follow up.

Results 317 people were recruited. The major outcome is the reduction of falls measured by a Negative Binomial Regression Model. Secondary measures examined differences in static and dynamic balance, self-efficacy for activities of daily living, habitual physical activity and functional independence. Analysis was by intention-to-treat. In our initial pilot-feasibility study we had significant results for LiFE with a 79% reduction of falls (RR=0.21 (0.06-0.67), n=34). In this paper we will present the final results of our major trial, comparing differences in outcomes between the interventions.

Conclusion There are many opportunities in everyday life to challenge balance and to load muscles and make them work harder. This project rigorously examined the efficacy of such a novel approach for older at-risk elders. It advances our knowledge about the role of balance and strength in falls prevention.

Contribution to practice An outcome of LiFE will be to challenge occupational therapy to expand its home visit focus from compensatory techniques to increasing opportunity for balance and strength training into daily life activity. We believe that these competing goals need careful re-examination.