

The Effects of a Home Exercise Program on Strength and Balance in Postmenopausal Women with Low Bone Mass

Researchers:

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Purpose/Hypothesis

By 2020, one in two Americans aged 50 years or older will be at risk for fractures from osteoporosis or low bone mass. Fractures are associated with gait impairments, decreased functional independence, and increased morbidity and mortality rates. The purpose of this study was to determine the effects of a ten week lower extremity strengthening home exercise program (Get Hip) on lower extremity strength, balance performance, and balance confidence in postmenopausal women with low bone mass.

Subjects

Twenty-three community dwelling females with a mean age of 69 years participated.

Materials and Methods

Participants completed a health history questionnaire and Activities-Specific Balance Confidence Scale (ABC). Isometric strength of six lower extremity muscle groups was measured and balance was assessed using the Fullerton Advanced Balance scale (FAB). Participants were randomly assigned to the Get Hip exercise group (n=13) or control group (n=10). Get Hip participants completed a ten week home exercise program consisting of lower extremity strengthening exercises. Participants in the control group were requested not to initiate a new exercise routine prior to re-test at 10 weeks.

Results

The Get Hip group demonstrated significant improvements in all 16 strength variables ($p < .001$ -.015) and Balance FAB scores ($p < .001$).

Conclusions

A home-based exercise program is feasible, safe, and effective for significantly strengthening lower extremity musculature and increasing functional balance in postmenopausal women with low bone mass.

Clinical Significance

Improving lower extremity strength can improve balance, and subsequently, reduce the risk of fracture in postmenopausal women with low bone mass.

Goals and objectives

- Attendees will learn about the prevalence of low bone mass.
- Attendees will be able to review an exercise program designed to improve balance in women with low bone mass.