



Aging & Chronic Diseases

Balance exercises in older adults: variables and effects

Does frequency, type, time and duration of balance exercise explain the effects seen in older adults?

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This systematic review found significant heterogeneity in the observed effects of balance exercise interventions.

The authors discovered that exercise frequency, type, and time, as well as program duration, were not predictive of the effects on balance in older adults. Whether exercise intensity may explain these effects remains unclear.

Therefore, current evidence does not yet provide an adequate explanation of the observed benefits of these interventions.

Fall-related injuries are a leading cause of morbidity and mortality in older adults worldwide.

While the use of exercise interventions to address this issue has been extensively studied, exercise variables have not sufficiently been reported. Moreover, the application of these variables in balance training has been based on expert opinion rather than research evidence.

Ninety-five eligible trials were extracted from previous systematic reviews, of which eighty were used for meta-regressions. Eligible studies reported at least one end-intervention balance outcome measurement that was consistent with the five subgroups of balance exercise identified.

Risk of bias was assessed using the Physiotherapy Evidence Database (PEDro) scale. The risk of systematic bias in the outcomes related to study quality was low.

No significant associations were found between individual exercise variables and the standardised mean difference of study effects. Center of mass control exercise types were found to explain only 2.14% of the variance in balance outcomes.

While balance exercise is effective at improving balance performance, there is no clear evidence of which specific exercise frequency, time, or duration is associated with positive effects.



Expert opinion

This systematic review shows us that traditional exercise variables seem to not explain why balance exercise interventions are effective in the elderly.

Other measures should be sought to determine the efficacy of these interventions and optimise fall prevention outcomes in this population, since current approaches do not seem to be sufficient.

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