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A Comparison of Flexi-Bar and Non-Flexi-Bar Exercises Effect on Balance, Walking Speed and Fall Risk in Older Women

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Background

Falls are one of the major causes of mortality and morbidity in older adults. Th e major risk factors are impaired balance and gait, polypharmacy, history of previous falls, advancing age, and female gender. Regular involvement in moderate physical activity reduces falling risk. Whole body vibration exercise provides strong sensory stimulation that can activate the muscle spindles and strengthen the proprioceptive senses, strengthening the muscles that are essential for postural stability. The vibration characteristic of the flexi-bar creates a strong proprioceptive stimulation, which has a significant effect on the movement perception.

Aim

To assess the effects of flexi-bar and non-flexi-bar exercises on balance, walking speed and fall risk in community dwelling women 65-89 years of age.

Methods

Participants (n=22) of the study were randomly divided into two groups. Th e subjects of the research group (n=11) underwent balance improvement program using Flexi-bars and the subjects of the control group (n=11) were prescribed the same exercise program with non-fl exi-bars (wooden sticks). All women before and aft er 8-week intervention executed 4 stance balance test, functional reach test, 10 metres walking test, timed up-and-go test, and fi lled Desmond's fall risk questionnaire.

Result

All women who participated in the study had an increased risk of falling. Comparison of the results before and after the 8-week physiotherapy program demonstrated statistically significant improvement in the 4-stance balance test ($p<0.05$) in both groups, but there were no statistically significant differences between the groups. Statistically better ($p<0.05$) results achieved Flexi-bar exercise group to compare to non-flexi-bar group in functional reach test, 10 metres walking test, and timed up-and-go test.

Conclusion

Exercises with fl exi-bars were more eff ective in reducing risk of falling in older women than exercises with wooden sticks.

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