Comparative Effect Of Retrowalking Exercise and Forward Stepping On Fall Risk In The Elderly

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ABSTRACT

Background: *Elderly individuals experience a decline in body functions such as decreased muscle strength and muscle contraction, functional changes in muscles, and reduced flexibility, all of which can lead to weakened postural control and stability during movement, ultimately affecting balance and increasing the risk of falls. Retrowalking exercise is categorized as a closed kinetic chain exercise that is effective in improving lower extremity muscle strength and body balance, while forward stepping is a type of balance exercise for the elderly that strengthens the lower back and gluteal muscles.* ***Objective:*** *To determine the difference in the effects of retrowalking exercise and forward stepping on fall risk in the elderly.* ***Methods:*** *This study is a quantitative study employing a quasi-experimental design with a two-group pre-test and post-test design, the sample was selected using purposive sampling. The study was conducted at the Menur XI Posyandu in Kaplingan, Jebres, Surakarta, with 56 elderly with risk of falling. Fall risk was assessed using the Time Up and Go Test.* ***Results:*** *Analysis of the effects using the Wilcoxon test showed a p-value of 0.001 ($p < 0.05$) for the retrowalking exercise, while the forward stepping exercise yielded a p-value of 0.005 ($p < 0.05$). The Mann-Whitney test for differences in effects indicated a significance level of $p = 0.038$ ($p < 0.05$).* ***Conclusion:*** *There is a difference in the effects of the retrowalking exercise and forward stepping on the risk of falls in the elderly, the retrowalking exercise ($p = 0.001$) was found to be more effective than forward stepping ($p = 0.005$) in reducing the risk of falls in the elderly.*

Keyword: *Retrowalking exercise, forward Stepping. risk of falls, time up and go test*