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Task-oriented exercise to promote ADL independence in vulnerable older adults: A pilot RCT of 3-Step Workout for Life

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Introduction/Rationale: Age-related muscle weakness is a significant contributing factor to late-life disability. Although many studies have shown strong evidence of progressive resistance strength training to reverse age-related decline in muscle strength, the training effect on reducing ADL dependency is often negligible.

Objectives: To compare whether 3-Step Workout for Life, which added task-oriented training to progressive resistance exercise, would result in greater effect on improving the ADL outcome than progressive resistance exercise alone.

Method: A single-blind randomized controlled trial was conducted. Fifty-two inactive, community-dwelling older adults (mean age = 73 years) with muscle weakness and ADL difficulty were randomized to receive 3-Step Workout for Life or resistance exercise only. Both groups were comparable in exercise intensity, duration, and frequency. Assessment of Motor and Process Skills was administered to measure ADL performance at baseline, post-intervention, and six months after intervention completion.

Results: At post-intervention, the 3-Step Workout for Life Group showed improvement on the outcome measure (mean change from baseline = 0.29, $p = 0.02$), but the improvement was not greater than the Resistance Exercise Only Group (group mean difference = 0.24, $p = 0.13$). However, the Resistance Exercise Only Group showed a significant decline (mean change from baseline = -0.25, $p = 0.01$) six months after the intervention completion. Meanwhile, the superior effect of 3-Step Workout for Life was observed (group mean difference = 0.37, $p < 0.01$).

Conclusion: This study supports the use of task-oriented exercise to improve ADL performance and slow down the disablement process in older adults.