

Once-Weekly Single-Set Resistance Training Improves Perceived Physical Function and Energy/Fatigue in Older Adults

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ABSTRACT

Lack of energy, fear of discomfort/pain, time, motivation, and psychological considerations are among the barriers that inhibit the participation of older individuals in regular physical activity. Participation in physical activity has been demonstrated to help with the maintenance of physical, cognitive, and emotional health. The Exercise is Medicine Initiative is managed by the American College of Sports Medicine the purpose of which is to make physical activity assessment and promotion a standard in clinical care. This initiative encourages physicians and other health care providers to include physical activity when designing treatment plans. **PURPOSE:** The purpose of the project was to determine whether six weeks of a once-weekly single-set strength training program would elicit changes in perceived function, health, and quality of life. **METHODS:** Fifteen individuals (5 males and 10 females) aged 65 ± 6.84 years, height 66.07 ± 4.06 inches weight 168.8 ± 48.07 lbs body fat $39.78 \pm 8.60\%$, participated in a Pre/Post within subjects testing research design. Prior to training each participant had their body composition measured with a DEXA and completed the Short Form 36 which is self-reported measure of perceived function, health, and quality of life. The Short Form 36 includes items that assess perceived physical function, role limitations due to physical health, emotion problems, energy/fatigue, emotional well-being, social functioning, pain, and general health. Following the initial testing participants engaged once per week strength training sessions to failure for six weeks. After the six-week training period participants underwent the same testing protocol. A Wilcoxon Signed Rank Test was used for statistical comparisons with $p \leq 0.05$ used for significance. **RESULTS:** Perceived physical functioning (pre 87.00 ± 7.51 , post 91.33 ± 9.72 , $p = 0.039$) and energy/fatigue (pre 64.33 ± 14.74 , post 74.33 ± 11.48 , $p = 0.011$) both improved following the training. Significant differences were not observed for any of the other areas assessed by the Short Form 36. **CONCLUSION:** Based on the data from this investigation engaging in a single strength training session to failure per week results in improvement in perceived physical function and energy/fatigue in a cohort of older individuals. The findings of this investigation also provides support to the Exercise is Medicine initiative of the American College of Sports Medicine by demonstrating improvement in psychological considerations associated with barriers to physical activity. Moreover, these results demonstrate that a minimal dose of exercise per week elicits positive attributes that can fuel affirmative lifestyle changes that can enhance quality of life in older individuals.