GNYACSM Abstract

Demonstrating the Effects of Blood Flow Restriction During Online Strength Training in Older Adults

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Blood Flow Restriction (BFR) training entails limiting perfusion to specific body areas, allowing low-intensity exercise to simulate the effects of high-intensity workouts. Combining BFR and online exercise classes is a novel way of potentially improving both effectiveness and accessibility of training to an older population. It is essential to maintain strength as people age in order to avoid or manage physiological conditions like sarcopenia and osteoporosis. **PURPOSE**: To investigate if in five weeks of online low-intensity resistance training, improvements in strength will be greater among the older adults wearing BFR straps. **METHODS**: Men and women (mean age = 70 ± 5.6) participated in five weeks of online classes twice a week. 14 individuals wore adjustable BFR straps at the proximal thigh while 14 were randomized into a control group, with four needing to withdrawal from the study due to medical and personal reasons. (n=24). Strength of the hamstrings and quadriceps was assessed using a Biodex system 4 pro, prior and post exercise classes. **RESULTS**: After the intervention, both the BFR and control group improved in quadricep and hamstring strength. The BFR group displayed a 108.3% increase in their quadricep strength while the control group increased by 91.7%. Hamstring strength improved by 105% and 120% respectively. A one-way Anova was completed to determine if there were significant changes between and within the groups over five weeks. Changes in strength were not found to be significant (p=0.750,0.465,0.357,0.781) **CONCLUSION**: Improvements were seen in both groups, however the difference between the control and BFR were not significant, suggesting that a 5-week training period could be a limitation. Therefore, to conclusively determine whether low-online resistance training can effectively enhance strength with BFR in older adults, a more extensive intervention period is necessary.