TACSM Abstract

Comparison of Static Flexibility and Balance in Older Adults Engaging in Balance Training Activities

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ABSTRACT

Around 36 million falls are reported among older adults each year, with 32,000 of those falls resulting in death (CDC, 2022). In recent studies, correlations have been made between a lack of muscle flexibility and body balance and a lack of balance and poor walking ability (Iwamoto et al., 2009). As a result, balance improvement and flexibility gains allow for a better quality of life (Chang et al., 2010). **PURPOSE:** To compare the static flexibility and static balance in older adults (50-75 years old) who have (a) participated in balance performance training (Tai Chi, yoga, Pilates, etc.) for four or more years, with (b) older adults who maintain similar levels of activity but do not engage in balance performance training and (c) sedentary older adults who do not meet National Physical Activity Guidelines for older adults. **METHODS:** Participants were recruited from the Georgetown and Round Rock communities. Prior to the assessments, participants completed the Informed Consent, Godin Leisure Physical Activity Questionnaire, and Health History Questionnaire. Information from the questionnaires was used to categorize participants into three groups (balance-trained, balance-untrained and sedentary). Each participant performed the Back Saver Sit and Reach (right and left leg) along with Standard Romberg (eyes open and eyes closed), Modified Romberg (eyes open and eyes closed), and Unipedal Stance (eyes open). **RESULTS:** The right leg back saver results for the balance-trained group (17.2 ±6.5 in) were statistically significant (p= .014, n_p^2= .254) when compared with the sedentary group (10.3±2.9 in). The left leg back saver results for the balance-trained group (18.7 ±5.9 in) were also statistically significant (p=.007, n_p^2= .290) when compared to the sedentary group (10.7±3.6 in). The unipedal stance results for the right leg of the balance-trained group (23.59 ± 22.06 in) were statistically significant (p=.02, n_p^2=.224) compared to the balance-untrained group (9.10 ± 5.74 in). However, there were no statistically significant differences between groups for unipedal stance on the left leg, Romberg (eyes open, eyes closed) or Modified Romberg (eyes open, eyes closed). **CONCLUSION:** Overall, the balance-trained group displayed better static flexibility than the sedentary group. Flexibility is vital for older adults in order to maintain mobility and ability to perform activities of daily living (ADL's). Maintaining proper balance is essential to living a healthy life without the fear of falling. The results of this study support encouragement for older adults to abide by CDC National Physical Activity Guidelines, in order maintain a healthy quality of life.