

tant for physiotherapists on exercise prescription and patient advisement.

**Keywords:** Rising from a chair; Peak torque forces; Lower limb

**Funding acknowledgements:** None.

**Ethics approval:** Ethical approval was obtained from the school ethics committee and all participants signed an individual informed consent.

#### Research Report Platform Presentation

Number: RR-PL-2903

Tuesday 21 June 10:45

RAI: Elicium D203-204

#### THE IMPACT OF A SPECIFIC, MODERATE AND SAFE HOME-BASED EXERCISE PROGRAMME ON FALL RISK FACTORS IN OLDER PORTUGUESE PEOPLE

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**Purpose:** The impetus for this study was that a high percentage of older Portuguese people are sedentary and therefore the aim of this study was to design, implement and assess a nine month home-based, moderate, specific exercise programme focusing on fall risk factors for Portuguese older people over the age of 65.

**Relevance:** There are multitude of falls prevention programmes reported in literature but evidence based specific exercise programmes focusing on fall risk factors are not well represented. The exercise programme designed for this study contained exercises that were easy to understand and perform, did not require equipment, were individually tailored and progressed and were specifically focused on fall risk factors.

**Participants:** Sixty healthy older people, between the ages 65 and 84 years, from a Portuguese health centre volunteered to participate in the study. The participants were functionally independent in the community, and able to walk without aids.

**Methods:** Participants were randomly allocated into two groups by permuted blocks: the intervention ( $n=26$ ) and the control group ( $n=34$ ). The intervention group undertook an exercise programme for nine months and the control group continued their normal activities. Sit to stand (STS) was used to measure lower limb strength, timed up and go test (TUG) for balance and gait mobility, forward reach test (FRT) and lateral reach test (LRT) for balance, voluntary stepping test (VST) for the time taken to perform a fast voluntary step in all directions, active dorsi and plantar flexion for range of movement (AROM), and thoracic curve measurements for posture of the spine. All the measures were taken before the

start of the programme and at three and nine months from the start in both groups.

**Analysis:** Analysis of the effects of the programme involved the GLM approach to repeated measures analysis of variance (SPSS 17.0 version), with time as a within subject factor (baseline, 3 and 9 months) and the group as a between-subject fixed factor (intervention and control). For three comparisons the significance level was adjusted with a  $p < 0.016$ .

**Results:** After three months of exercise the intervention group showed statistically significant improvements ( $p < 0.01$ ) in STS, FRF and VST in all directions when compared with the control group. After nine months of exercise, improvement had also been achieved in TUG ( $p < 0.002$ ), LRT ( $p < 0.0001$ ), AROM of both ankles ( $< 0.02$ ). The programme had no statistically significant influence on reducing thoracic kyphosis. Three months after the start of the programme there was a 79% adherence rate and at nine months the adherence was 74%.

**Conclusions:** A specific home-based exercise programme for older people, that was easy to administer could improve ankle flexibility, lower limb strength, balance, time of voluntary stepping, all of which are considered fall risk factors.

**Implications:** The outcomes showed that a moderate intensity exercise programme was effective in producing positive changes, being important for physiotherapists as traditionally it is believed that they should use high intensity resistive exercises often requiring equipment.

**Keywords:** Home-based; Specific exercise programme; Older people

**Funding acknowledgements:** None.

**Ethics approval:** Ethical approval was obtained from the health centre ethics committee and all participants signed an individual informed consent.

#### Research Report Poster Display

Number: RR-PO-208-1-Thu Thursday 23 June 13:00

RAI: Exhibit Halls 2 & 3

#### FUNCTIONAL GAIT TEST: A NOVEL TEST FOR ASSESSING GAIT PERFORMANCE DURING MULTIPLE TASKS

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**Purpose:** The aim of this study was to analyze results following the application of a novel test for assessing gait under multiple-task conditions, comparing performance of young adults, healthy elderly, and Parkinson's Disease (PD) patients.

**Relevance:** This dependency on attention in gait control tends to increase during the aging process. Consequently,