The Balance Confidence, Health Status and a multitasking evaluation protocol in the elderly.

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INTRODUCTION

Falls are a serious health problem for elderly people. **In Portugal, falls are about 70 % of accidents in the elderly.**

The aging process can be understood as the set of changes structural and functional, namely in motor, sensory and cognitive functions. These changes interfere with functional performance, with the execution of activities of daily living (ADL), quality of life (QOL) and mobility functional .

After a fall elderly develops a fear of falling related with low levels of balance confidence. Furthermore, the ability to maintain dynamic balance during postural task involves more attentional demands and high levels of environment control.

The ability to perform a Dual Task (DT) is essential for the elderly, as it allows functional independence. However, in the elderly population this capacity may be reduced, since the elderly may have limitations in the hablity of information processing because the implementation of DT requires more attention resources. Another of the capacities affected by the implementation of DT in elderly population is gait.

OBJECTIVES

To evaluate an Experimental Protocol (EP)of Dual Task including Gait, Motor and cognitive challenges.

To correlate scores of EP with scores of The Activities-Specific Balance Confidence Scale, SF-12 and MMSE and with the difference between TUG and Cognitive TUG

SAMPLE

126 subjects

Age 78.98±8.34 (60-90 years old)

DISCUSSION

Most complex tasks of the experimental protocol (Task 7: walk in straight line, overcome obstacle with upper limb coordination, and Task 8: walk in straight line, overcome obstacle with upper limb coordination and count backward) had significant correlations with Balance Confidence, with health status (MMSE), in mental health domain SF-12, but strongest in physical health domain. This happens in all four moments of evaluation.

We found that this two tasks have a good evaluation of motor, cognitive and coordination values.

CONCLUSION

In our opinion we can use tasks 7 and 8 of the experimental protocol to evaluate capacity to perform multitasks (motor/cognitive) and coordination levels using a much more quickly and easy way for the elderly.

A more extensive and intensive study must be done.

INCLUSION CRITERIA

- **Age ≥ 65 years,**
- **No visual/auditory acuity alterations or, if they were, using means of compensation**
- **Being able to read and write (or understand what was communicated to them)**
- **Agreed to participate in the study and signed the informed consent.**

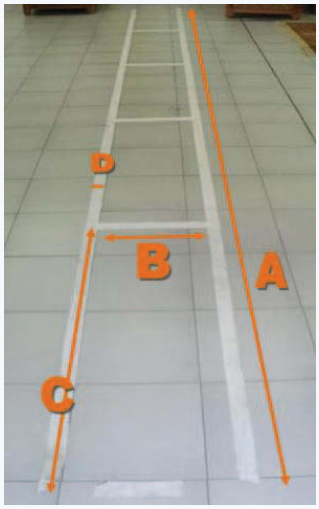
EXCLUSION CRITERIA

- **The use of walking aids that prevented the dissociation of waists**
- **Severe affections of the somatosensory and vestibular system**
- **Obtained a lesser score of MMSE score according to schooling**
- **Presence of serious pathologies that prevent participation in an exercise program**
- **Accentuated sequels of stroke.**

METHODS

An experimental protocol was tested in four different occasions to evaluate functional performance related in walking, cognition and coordination in double and Emultiple tasks, along a path (6mx0.4m). Eight different tasks conjugations were tested: a) walking straight, b) counting back, c) coordinating the upper limbs and d) overcoming the obstacle. We also used a Balance Confidence Scale and SF-12. The score of the experimental protocol is done by counting errors.

Execution of double task, motor and cognitive, focused on 4 components: coordination, muscle strengthening, dual-task and balance. 4 weeks program, with a total of 12 sessions. Evaluation: T0 (pre-intervention), T1 (post-intervention) and T2 (follow-up 3 month after) and T3 (follow-up 6 month after). SF-12, MMSE, 6 Meter Experimental Protocol and kinematic evaluation. A sociodemographic characterization was used.



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