

Normative Values of Balance, Mobility and Gait Speed in Healthy Older Portuguese People

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Abstract

Background: Falls are a major public health problem(1). They increase morbidity and mortality rates, disability, social isolation, fear of falling, dependency and institutionalization in older people(1, 2). Additionally, injuries related to falls represent substantial costs to health systems(3). Balance, mobility and gait speed are modifiable risk factors for falls(4). However, to interpret results from balance, mobility and gait speed measures, and compare them within a population or across populations, normative data are necessary(5-7).

Aim: To establish age and gender-related normative values for the Balance Evaluation System Test (BESTest), Mini-BESTest, Brief-BESTest, Timed Up and Go (TUG) test and Usual Gait Speed (UGS) for Portuguese healthy older people.

Methods: Participants were recruited from the community. Balance was assessed with the BESTest, Mini-BESTest and Brief-BESTest, mobility with the TUG and gait speed with the six-meter UGS. Descriptive statistics was used to determine normative scores by age decades (60-69; 70-79; 80-89) and gender. Differences between age and gender were explored with multiple comparison tests using the Bonferroni correction ($p<.05$).

Results: One hundred and thirteen healthy older people (75.8 ± 8.9 yrs; 70.5% female) participated in this study. Mean scores for BESTest (86.5 ± 15.6 ; 82.6 ± 14.5 ; 72.6 ± 15.0), Mini-BESTest (22.4 ± 6.3 ; 21.6 ± 5.9 ; 16.2 ± 6.2), Brief-BESTest (17.5 ± 6.3 ; 16.0 ± 6.0 ; 10.2 ± 5.5) and UGS (122.3 ± 46.8 cm/s; 116.6 ± 47.3 cm/s; 73.8 ± 32.6 cm/s) decreased whereas TUG (8.9 ± 2.8 s; 9.5 ± 4.0 s; 16.8 ± 5.3 s) increased with age. Female presented worse results. Mean scores of all measures were significantly different among age decades and gender ($p<.05$).

Conclusion: This study provides normative values to BESTest, Mini-BESTest, Brief-BESTest, TUG and UGS in older Portuguese people, which may contribute to develop tailored interventions to improve balance, mobility and gait speed in this population.

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