

# Correlations between Balance and Functionality, Gait Speed, Physical Activity and Quality of Life in Community-Dwelling Older People

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## Abstract

**Background:** There is a need to promote health and healthy ageing since the average life expectancy worldwide is currently 71.4yrs while the healthy life expectancy is 63.1yrs old. Balance is a modifiable risk factor for falls which represent a major public health problem for healthy aging. Predictors of healthy ageing in older people, i.e., functionality, gait speed, physical activity (PA) and health-related quality of life (HRQoL) have been correlated with balance measures. However, their relationship with the BESTest and its short versions (new comprehensive measures of balance) remains unknown for this population.

**Aim:** To explore the relationship between the BESTest, Mini-BESTest and Brief-BESTest with functionality, gait speed, PA and HRQoL in community-dwelling older people.

**Methods:** A cross-sectional study was conducted. Healthy older people (>60yrs) were recruited from the community. Balance was assessed with the BESTest, Mini-BESTest and Brief-BESTest, functionality with the Five Times Sit to Stand (5STS), gait speed with the 10Meter Walk Test (10MWT), PA with the Brief-PA questionnaire and HRQoL with the World Health Organization Quality of Life-Bref (WHOQoL-Bref). Descriptive statistics was used to characterize the sample. Correlations were explored with the Spearman correlation coefficient.

**Results:** 118 older people (76.2±8.9yrs; 69.9% female) participated in this study. Correlations between balance and functionality, gait speed, PA and HRQoL measures are presented in table 1.

Table 1: Relationship between balance and functionality, gait speed, PA and HRQoL.

Variables	BESTest	<i>p</i>	Brief-BESTest	<i>p</i>	Mini-BESTest	<i>p</i>
5STS	-.51	<.001	-.61	<.001	-.62	<.001
10MWT	-.68	<.001	-.77	<.001	-.78	<.001
Intense PA	-.34	<.001	-.37	<.001	-.34	<.001
Moderate PA	-.36	<.001	-.37	<.001	-.38	<.001
WHOQoL-Bref Domain						
I	.46	<.001	.57	<.001	.54	<.001
II	.47	<.001	.52	<.001	.54	<.001

III	.32	.002	.36	<.001	.34	.002
IV	.46	<.001	.51	<.001	.48	<.001

**Conclusion:** This study shows that there is a relationship between the BESTest and its short versions and functionality, gait speed and HRQoL in community-dwelling older people. Higher correlations were found with the short versions. This is useful for clinical practice since these versions are simpler and quicker to apply.