

Paper Category:	7. Prevention and Public Health
Paper Title: (Arial Font; 14 Pt Size)	Validity and absolute reliability of calf and waist circumference measurements in older individuals using the AI application "Bodygram"
Abstract Body: (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> • Background • Objectives • Method • Results • Discussions and Conclusions
<p>(Maximum word limit - 300 words)</p> <ul style="list-style-type: none"> • Background Body measurements are important, as calf circumference is employed to screen for sarcopenia by the Asian Working Group for Sarcopenia, and waist circumference for sarcopenic obesity by the European Society for Clinical Nutrition and Metabolism and the European Association for the Study of Obesity. In 2020, Bodygram Japan K.K. (Tokyo, Japan) launched an application called "Bodygram" allowing clothed users to measure their body size using two pictures of the entire body with an information terminal in the frontal and the sagittal plane. • Objective We aimed to verify the validity and absolute reliability of calf and waist circumference measurements obtained using "Bodygram" in older individuals. • Method A total of 42 individuals were included in the study (73.8% women; mean age: 71.05 ± 7.08 years). Each part was measured using an iPad sixth generation (Apple Inc., California, USA) with Bodygram 3.1.6. The calf circumference was measured twice around the thickest aspect on each side, and the average value was calculated. The waist circumference was measured around a horizontal line passing through the umbilicus on a thin garment. • Results Pearson's correlation coefficients between Bodygram measurements and the actual measurements were 0.841 for calf ($p < 0.001$) and 0.826 for waist circumference ($p < 0.001$), demonstrating a strong positive correlation in both. A Bland-Altman analysis, with abscissa as the actual measurements and the ordinate as the difference between Bodygram measurements and the actual measurements, demonstrated that the addition errors were not significant (calf circumference: 95%CI -2.22–3.87, waist circumference: 95%CI -13.50–6.85), but the proportional errors were significant (calf circumference: $B = -0.31$; $p < 0.001$, waist circumference: $B = -0.31$; $p < 0.001$) for both. • Discussions and conclusion Bodygram had validity in measuring calf and waist circumference in older individuals. However, the calf circumference was overestimated in those with thin calves and the waist circumference was underestimated in those with a large waist. 	

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