Abstract

Introduction: Since the excess of body fat is associated with higher morbid-mortality rates (mainly in adults), precise, reliable, cost-effective, and broadly applicable methods are necessary for its assessment in population-based studies and in clinical practice.

Objective: To evaluate the correlation between body fat estimated either by bioelectrical impedance or by the sum of skinfold thicknesses and anthropometric indicators of fat distribution.

Methods: A cross-sectional study was conducted enrolled 348 undergraduate students (median 21 years), from the Federal University of Pernambuco, Northeast Brazil. Results: 262 of the subjects were women. Mean body fat assessed by bioelectrical impedance was 22.3 ± 6.2% in women and 15.2 ± 4.2% in men. Body fat obtained by the sum of skinfold thicknesses was similar to that assessed by bioelectrical impedance only in men. A strong correlation was observed between body fat assessed by bioelectrical impedance and that assessed by the sum of the skinfold thicknesses, waist circumference and waist-to-height ratio. Regarding the conicity index, there was a moderate correlation for men and a weak correlation for women. Conclusions: The sum of skinfold thicknesses surrogate of body fat percentage and can be used to assess body fat when BIA is not available in the field. Additional information about central fat distribution can be supply by measuring the waist circumference or waist-to-height ratio.

Keywords

Body fat, Bioelectrical impedance, Skinfold thicknesses, Waist circumference, Waist-to-height ratio.