Validity: A Study of the Eight Tactile Point Bioelectrical Impedance using the DXA in Body Fat Percentage Assessment

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Abstract:
Body composition, including body fat percentage, are sought after assessments to evaluate body fat in relation to body weight. Attaining accurate body fat percentage assessment usually requires access to expensive equipment which may not be obtainable by most community organizations. The eight tactile point bioelectrical impedance body composition analyzer presents a compact, portable body style that has the ability to be used on a wider variety of body types than the gold standard dual-energy x-ray absorptiometry (DXA). PURPOSE: This study aimed to provide evidence of convergent validity for the eight tactile point bioelectrical impedance body composition analyzer for assessing body fat percentage. METHODS: All participants gave informed consent. Male and female participants (n=101) completed a 12 hour fast, refrained from alcohol consumption for 24 hours, and refrained from exercise for a minimum of 36 hours before testing. Participants’ body fat percentage was assessed on the eight tactile point bioelectrical impedance body composition analyzer and immediately after tested on the DXA by a trained technician. One-tailed Pearson correlations were conducted between the eight tactile point bioelectrical impedance body composition analyzer and DXA body fat percentages. RESULTS: The eight tactile point bioelectrical impedance body composition analyzer and the DXA body fat percentages were significantly related (r = .96, p < 0.0001). CONCLUSION: Results provide evidence of validity for the eight tactile point bioelectrical impedance body composition analyzer for the assessment of body fat percentage. This study indicates that the use of the eight tactile point bioelectrical impedance body composition analyzer provides a portable, compact, and obtainable method of body fat percentage assessment.

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