

### Body mass index is not a reliable tool to predict obesity in postmenopausal women #70

João Paulo Botero<sup>1,2</sup>, Gilberto Eiji Shiguemoto<sup>1,2</sup>, Jonato Prestes<sup>1</sup>; Richard Diego Leite<sup>1</sup>, Bruna Amaral<sup>2</sup>, Mariana Motta<sup>2</sup>, Erisson Santos<sup>2</sup>, Cecília T. Marin<sup>2</sup>, Everson R. Bertacini<sup>2</sup>, Vilmar Baldissera<sup>1</sup> and Sérgio Eduardo de Andrade Perez<sup>1</sup>

<sup>1</sup>*Department of Physiological Sciences, Federal University of São Carlos, São Carlos/SP, Brazil;* <sup>2</sup>*Centro Universitário Central Paulista – UNICEP, São Carlos, Brazil.*  
E-mail: [jpbotero@yahoo.com.br](mailto:jpbotero@yahoo.com.br)

The aim of this study was to compare two methods of body composition evaluation in postmenopausal women, and establish correlations with the Body Mass Index (BMI). Twenty seven postmenopausal women ( $58.03 \pm 5.33$ ) were evaluated by two body composition methods: Bioimpedance (Biodynamics 310) and Dual Energy X-Ray Absorptiometry (DXA). Results of the fat mass showed by the DXA was  $38.21 \pm 7.46\%$  of the body mass, and  $39.05 \pm 4.40\%$  by the Bioimpedance, with 0.76 of correlation (Pearson's correlation test). In the other hand, the BMI found was  $28.08 \pm 4.90$ . There was a high correlation between DXA and Bioimpedance; however low correlation between DXA and Bioimpedance with BMI. When the body composition classification was made by the BMI, subjects were classified as overweight. In the other hand, DXA and Bioimpedance classified subjects as obese. The main conclusion of this study was that BMI is not a reliable index to classify and determine levels of obesity. Bioimpedance appear to be a satisfactory method to predict body composition in postmenopausal women, since it was observed a significant correlation with the gold standard method for body composition DXA.

**Key words:** body composition evaluation; DXA, bioimpedance; BMI; postmenopausal women.