Abstract
This study aimed to compare the resting energy expenditure (REE) of white and non-white severely obese Brazilian women. REE was examined in 83 severely obese Brazilian women (n = 58 white and 25 non-white) with mean (± SD) age 42.99 ± 11.35 and body mass index 46.88 ± 6.22 kg/m² who were candidates for gastric bypass surgery. Body composition was assessed by air displacement plethysmography (ADP) BOD PODÒ body composition system (Life Measurement Instruments, Concord, CA) and REE was measured, under established protocol, with an open-circuit calorimeter (Deltatrac II MBM-200, Datex-Ohmeda, Madison, WI, USA). There was no significant difference between the REE of white and non-white severely obese women (1,953 ± 273 and 1,906 ± 271 kcal/d, respectively; p = 0.48). However, when adjusted for fat free mass (MLG), REE was significantly higher in nonwhite severely obese women (difference between groups of 158.4 kcal, p < 0.01). REE in white women was positively and significantly correlated to Creactive protein (PCR) (r = 0.418; P < 0.001) and MLG (r = 0.771; P < 0.001). In the non-white women, REE was only significantly correlated to MLG (r = 0.753; P < 0.001). The multiple linear regression analysis showed that skin color, MLG and PCR were the significant determinants of REE (R² = 0.55). This study showed that, after adjustment for MLG, non-white severely obese women have a higher REE than the white ones. The association of body composition inflammation factors and REE in severely obese Brazilian women remains to be further investigated.

Keywords
Air displacement plethysmography, Body composition, Ethnic differences, Energy expenditure, Obesity.