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Correlation between body composition and walking capacity in severe obesity

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Background: Obesity is associated with mobility reduction due to mechanical factors and excessive body fat. The 6-minute walk test (6MWT) has been used to assess functional capacity in severe obesity.

Objective: To determine the association of BMI, total and segmental body composition with distance walked (6MWD) during the 6-minute walk test (6MWT) according to gender and obesity grade.

Setting: University of São Paulo Medical School, Brazil.

Public Practice/Methods: Functional capacity was assessed by 6MWD and body composition (%) by bioelectrical impedance analysis in 90 patients.

Results: The mean 6MWD was 514.9±50.3 m for both genders. The male group (M: 545.2±46.9 m) showed a 6MWD higher ($p=0.002$) than the female group (F: 505.6±47.9 m). The morbid obese group (MO: 524.7±44.0 m) also showed a 6MWD higher ($p=0.014$) than the super obese group (SO: 494.2±57.0 m). There was a positive relationship between 6MWD and fat free mass (FFM), FFM of upper limbs (FFM_UL), trunk (FFM_TR) and lower limbs (FFM_LL). Female group presented a positive relationship between 6MWD and FFM, FFM_UL and FFM_LL and male group presented a positive relationship between 6MWD and FFM_TR. In morbid obese group, there was a positive relationship between 6MWD with FFM, FFM_UL, FFM_TR and FFM_LL. The super obese group presented a positive relationship between 6MWD with FFM, FFM_TR and FFM_LL.

Conclusions: Total and segmental FFM is associated with a better walking capacity than BMI.

Biography

Gabriela Correia de Faria Santarém completed her Master's degree from the University of São Paulo Medical School and is a PhD student at the same university. She has published many articles related to obesity in renowned journals.

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