Evaluation of the Corporal Composition of Professional Acrobatic Parachutists with Bioelectrical Impedance and Anthropometry

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Introduction: The Parachute Acrobatic Patrol of the Air Force (PAPEA) is an international elite team in this sport. The environmental conditions in which they do his work; 3-4 daily jumps from 2300-11000 feet, the speed of their bodies during the free fall, the abrupt changes of altitude, and also temperature and atmospheric pressure can produce modifications in their bodily composition and level of hydration.

Objective: To assess the body fat measurement by anthropometric equations and bioelectrical impedance methods of PAPEA.

Method: Cross sectional study where 9 members of the masculine team of the PAPEA have participated: men aged 34.4±4.36 years; experience 3,944.4±2,780.8 jumps and 8.6±5.6 years in the team. Device OMRON BF 306 has been used to quantify fat mass. Body fat percentage have been calculated anthropometrically from the formula of Yuhasz, after the measurement of skinfold of biceps, triceps, subscapular and suprailliac regions.

Results: The average values of weight, height and BMI are 77.18±7.45Kg, 173.56±6.73cm and 25.61±1.92Kg/m² respectively. The percentage of body fat average with bioelectrical impedance is 20.49±3.93%. Anthropometrically, the percentage of fat is 12.49±2.88%. The average of the relation between both percentages is 0.61±0.1. Its coefficient of correlation is r=0.7325.

Conclusions: The values of both measurements are different but with a relation among them. The differences could be due to the non-evaluation of the muscular mass or because of the level of hydration.

Key words: parachuting, body composition, electrical bio-impedance, anthropometry, body fat.

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