Comparison of body fat calculations by sex and puberty status in obese schoolchildren using two and four compartment body composition models

Comparación de modelos de dos y cuatro compartimentos para grasa corporal en escolares obesos según su sexo y desa

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Introduction: Determine body composition changes in adiposity can assess an individual. Objective: The objective of this study was to evaluate total body fat percentage based on two and four compartment models in obese Chilean school children, adjusting for differences in sex and puberty status. Methods: Sixty-one obese school children (33 boys and 28 girls) between 8 and 13 years of age were evaluated. Two compartment measurements of body fat percentage considered isotope dilution, plethysmography, radiographic absorptiometry and bioelectrical impedance; using the four compartment model as a benchmark.

Results: Each method explained between 43-87% of the variance in body fat percentage in Tanner stage I and II children and between 78-96% in Tanner stage III and V children. In both groups of children methods differed significantly for stage I, with the exception of plethysmography. High R2 values were observed for girls in all Tanner