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Body Mass Index and Body Composition with Deuterium in Costa Rican Children

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Body Mass Index (BMI) has been adopted as international measure for measuring adiposity in children with the disadvantage that it varies with age, sex and sexual maturation with no differentiation between fat mass and mass free of grease. The analysis of body composition allow to know if the overweight is due to fatty tissue being the deuterium isotope dilution a validated reference method using Infrared Spectrometry Transformed of Fourier (FTIR).

We studied a total 118 boys and girls from 6 to 9 years old getting the values of z score of BMI for age and percentage of fat mass by FTIR.

The results obtained in this study demonstrated that Costa Rica does not escape to the global problem of childhood obesity founding by BMI 18,6% of overweight and 10% of obesity and by body composition 9% of overweight and 57% of obesity.

Isotopic deuterium dilution method demonstrated in this study to be more suitable for the analysis of obesity and overweight in children since BMI presented false positive and false negative results giving less accurate information of adiposity of the subject.

Key words: girls, boys, obesity, underweight, BMI, body fat, deuterium

Country or International Organization

Costa Rica

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