Abstract

Introduction: The analysis of body composition through direct and indirect methods allows the study of the various components of the human body, becoming the central hub for assessing nutritional status. Objective: The objective of the study was to develop equations for predicting body fat% from circumferential body arm, waist and calf and propose percentiles to diagnose the nutritional status of school children of both sexes aged 4-10 years. Methods: We selected intentionally (non-probabilistic) 515 children, 261 children and 254 being girls belonging to Program interaction and development of children and adolescents from the State University of Campinas (Sao Paulo, Brazil). Anthropometric variables were evaluated for weight, height, triceps and subscapular skinfolds and body circumferences of arm, waist and calf, and the% fat determined by the equation proposed by Boileau, Lohman and Slaughter (1985). Through regression method 2 were generated equations to predict the percentage of fat from the body circumferences, the equations 1 and 2 were validated by cross validation method. Results: The equations showed high predictive values ranging with a R2 = 64-69%. In cross validation between the criterion and the regression equation proposed no significant difference (p > 0.05) and there was a high level of agreement to a 95% CI. Conclusion: It is concluded that the proposals are validated and shown as an alternative to assess the percentage of fat in school children of both sexes aged 4-10 years in the region of Campinas, SP (Brazil).

Keywords