Infrared thermography in the assessment of brown and white adipose tissue in children with different nutritional states.

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Objective: to evaluate brown adipose tissue (BAT) and white adipose tissue using Infrared Thermography (IRT) in children with different nutritional statuses and correlate findings with anthro-pometric variables.

Methods: this cross-sectional observational study assessed body composition via bioelectrical impedance (BIA),skin temperature (supraclavicular and abdominal) through IRT, and anthropo-metric variables such as neck (NC), waist (WC), and hip (HC) circumferences. Calculations included waist-to hip ratio (WHR) and conicity index (CI). Statistical analyses were performed in SPSS 20.0, with normality checked by the Shapiro-Wilk and homogeneity by Levene tests. Groups (eutrophic,overweight,obese) were compared using Pearson's Chi-square for categorical variables, Kruskal Wallis, and ANOVA tests for quantitative data. Correlations were analyzed using Spearman's method. The significance level was set at $p \leq 0.05$.

Results: of 160 participants, 116 children were analyzed (eutrophic: N = 58; overweight: N = 26; obese: N = 32). Significant differences were noted between the eutrophicand obese groups. Supraclavicular temperature negatively correlated with BIA variables (total body water, fat-free mass, body fat percentage).