

Plasma zinc concentration, body composition and physical activity in obese preschool children

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Zinc (Zn) deficiency and obesity can be observed together in some developing countries. Zn deficiency may enhance fat deposition and decrease lean mass accrual, which in turn, appears to influence physical activity (PA), although this has not yet been evaluated in obese children. The objective of the study was to find out the association between measurements of plasma Zn and serum leptin, body composition, and PA in Chilean obese preschool children. Seventy-two 18- to 36-month-old obese children [weight-for-length/height z score (WHZ)>2.0 SD], belonging to low socioeconomic communities, participated in the study. Plasma Zn, serum leptin, weight, waist circumference, height, total body water (TBW) assessed by deuterium isotopic dilution technique and daily activity, measured by registering 48 h with an accelerometer, were evaluated. We found 82% of children with WHZ>3 SD. The geometric mean Zn intake was 6.2 ± 2.5 mg/day. The mean plasma Zn was 91.8 ± 11.4 μ g/dL, with 10% of the children ha