Insulin sensitivity in children aged 6 to 16 years. Association with nutritional status and pubertal development Sensibilidad insulínica en niños de 6 a 15 años: Asociación con estado nutricional y pubertad

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Backgrounds: There is a high prevalence of obesity and hyperinsulinism among Chilean prepuberal children. Aim: To evaluate insulin sensitivity (IS) using fasting insulin, the Homeostasis Model Assessment (HOMA) and quantitative insulin-sensitivity check index (QUICKI) in Chilean children. Material and Methods: Body mass index (BMI), total body fat percentage (%TBF) using the sum of 4 skin folds, abdominal obesity determined through waist circumference (WC), pubertal maturation using five Tanner stages, fasting glucose (Glu) and insulin (Ins), were measured in 354 children aged 6 to 15 years (173 males). IS was evaluated using HOMA and QUICKI. Results: IS was strongly associated with %TBF and WC. Ins, HOMA and QUICKI were significantly correlated with BMI (r =0.412; 0.405 y -0.442, respectively), %TBF (r =0.370; 0.367 y -0.394, respectively), and WC (r =0.452; 0.446 y -0.481, respectively). Ins and HOMA increased and QUICKI decreased significantly (p <0.0001) with age. Children in a sim