

[J Pediatr.](#) 2002 Jun;140(6):654-9.  [FULL-TEXT ARTICLE](#) [Links](#)

Comment in:

[J Pediatr.](#) 2002 Jun;140(6):641-3.

Metabolic correlates with obstructive sleep apnea in obese subjects.

[de la Eva RC](#), [Baur LA](#), [Donaghue KC](#), [Waters KA](#).

Sleep Disorders Unit, Ray Williams Institute of Pediatric Endocrinology, Diabetes and Metabolism, The Childrens' Hospital, Westmead, NSW, Australia.

OBJECTIVE: To examine links between obstructive sleep apnea (OSA), insulin resistance, and dyslipidemia. **STUDY DESIGN:** Obese (body mass index [BMI] >95th percentile for age and gender) children who snored (n = 62, 46 males, age 10.89 [5-16 years]) underwent polysomnography and metabolic studies. **RESULTS:** Respiratory disturbance index (RDI) was 9.23 (0-95), with 23 children (39%) recommended for treatment. Fasting insulin levels were 154.6 pmol/L +/- 79.8 (52-486), and fasting glucose levels were high in 7 children (11%). Fasting insulin levels correlated with sleep variables, including log transformed RDI (log(10)RDI) (P =.01), desaturation events (P =.05), arousal index (P =.01), and sleep-time with oxygen saturation in arterial blood <90% (P =.03) (adjusted r (2) = 0.21, F = 3.9, P =.005), but not with age, or BMI Z score. Log(10)RDI correlated with fasting insulin (P =.001) and BMI Z score (P =.03) (adjusted r (2) = 0.12, F = 3.9, P =.005), but not age or other metabolic variables. The correlation between log(10)RDI and fasting insulin persisted in models combining sleep and metabolic variables: log(10)RDI, adjusted r (2) = 0.75, F = 35.2, P <.001, and for fasting insulin, adjusted r (2) = 0.42, F = 6.1, and P <.001. **CONCLUSIONS:** The severity of OSA (log(10)RDI) correlated with fasting insulin levels, independent of BMI. Insulin levels may be further elevated as a consequence of OSA in obese children.

PMID: 12072866 [PubMed - indexed for MEDLINE]