Abstract
Objective. Our objective was to investigate the associations between level and timing of sexual development with metabolic profile in a cohort of Mexican adolescents in central Mexico. Material and Methods. Baseline data from children between the ages of 7 and 17 years (n= 582) who participated in the Health Worker Cohort Study, was used. The study participants included children of workers at the Mexican Institute of Social Security (IMSS) and the National Institute of Public Health, both located in Cuernavaca, in addition to children of workers at the Universidad Autónoma del Estado de México in Toluca who were enrolled between March 2004 and April 2006. Multiple linear regressions with robust estimates of variance, were used adjusting for specific covariates. Results. Both pubertal boys and girls, compared to their pre-pubertal counterparts, had higher body mass index (girls: 4.59 kg/m², p<0.0001; boys: 1.12 kg/m², p= 0.05) and percent body fat (girls: 3.61, p<0.0001; boys: 1.48, p= 0.0001). A significant difference in level of insulin resistance (homeostasis model assessment, HOMA) was detectable among girls (0.92, p<0.0001). Conclusions. Timing and levels of sexual development were significantly associated with adverse differences in several critical anthropometric and metabolic parameters.

Keywords
Sexual maturation, metabolism, adolescents, Mexico.