Age at menarche in urban Argentinian girls: association with biological and socioeconomic factors.

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Abstract
Age at menarche is regarded as a sensitive indicator of physical, biological, and psychosocial environment. The aim of this study was to determine the age at menarche and its association with biological and socioeconomic factors in girls from Santa Rosa (La Pampa, Argentina). An observational cross-sectional study was carried out on 1,221 schoolgirls aged 9-15 years. Menarche data were obtained by the status-quo method. Height, sitting height, weight, arm circumference, tricipital and subscapular skinfolds were measured. We also calculated body mass index, measures of body composition and proportions, and fat distribution. To assess socioeconomic factors, parents completed a self-administered questionnaire about their occupation and education, family size, household, and other family characteristics. The median age at menarche - estimated by the logit method--was 12.84 years (95% CI: 12.71, 12.97). Compared with their premenarcheal age peers, postmenarcheal girls had greater anthropometric dimensions through age 12. After this age, only height was higher in the latter group. Data were processed by fitting two logistic regressions, both including age. The first model included anthropometric variables and birth weight, while the second model included the socioeconomic variables. The significant variables derived from each model were incorporated into a new regression: height, sitting height ratio (first model), and maternal education (second model). These three variables remained significantly associated with menarche. The results suggest a relationship between linear growth and menarche and agree with those found in other populations where the advancement of menarche is associated with improved living conditions. In relatively uniform urban contexts, maternal education may be a good proxy for the standard of living.