

Pubertal Assessment Method and Baseline Characteristics in a Mixed Longitudinal Study of Girls

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Published online August 9, 2010

PEDIATRICS (doi:10.1542/peds.2009-3079) This Article

Objectives

The objective of this study was to describe the assessment methods and maturation status for a multisite cohort of girls at baseline recruitment and at ages 7 and 8 years.

Methods

The method for pubertal maturation staging was developed collaboratively across 3 sites. Girls at ages 6 to 8 years were recruited at 3 sites: East Harlem, New York; greater Cincinnati metropolitan area; and San Francisco Bay area, California. Baseline characteristics were obtained through interviews with caregivers and anthropometric measurements by trained examiners; breast stage 2 was defined as onset of pubertal maturation. The κ statistic was used to evaluate agreement between master trainers and examiners. Logistic regression models were used to identify factors that are associated with pubertal maturation and linear regression models to examine factors that are associated with height velocity.

Results

The baseline cohort included 1239 girls. The proportion of girls who had attained breast stage 2 varied by age, race/ethnicity, BMI percentile, and site. At 7 years, 10.4% of white, 23.4% of black non-Hispanic, and 14.9% of Hispanic girls had attained breast stage 2; at 8 years, 18.3%, 42.9%, and 30.9%, respectively, had attained breast stage 2. The prime determinant of height velocity was pubertal status.

Conclusions

In this multisite study, there was substantial agreement regarding pubertal staging between examiners across sites. The proportion of girls who had breast development at ages 7 and 8 years, particularly among white girls, is greater than that reported from studies of girls who were born 10 to 30 years earlier.

Key Words: puberty • girls • maturation assessment

Abbreviations: BCERC = Breast Cancer and the Environment Research Centers • NIEHS = National Institute of Environmental Health Science • NCI = National Cancer Institute • MSSM = Mount Sinai School of Medicine • KPNC = Kaiser Permanente Northern California • PROS = Pediatric Research in Office Settings

Accepted May 21, 2010.