



CWHS

Data Points

RESULTS FROM THE CALIFORNIA WOMEN'S HEALTH SURVEY

Age at menarche is a well-defined marker of reproductive maturation in adolescent females. Recent reports indicate that puberty (defined by breast development) appears to be occurring at younger ages.^{1,2} The decline in the age at first menstruation (or menarche) occurred during the first half of the 1990s and may be continuing, but at a slower rate, to a median age of 12.^{2,3,4} Early menarche, or puberty, can lead to a number of other problems, including risky behaviors, increased risks of teen pregnancy, and later adverse health outcomes such as breast cancer, metabolic disorders, shorter adult height, and possibly infertility.⁴ Onset of puberty is related to larger body size, so the increasing rate of childhood obesity likely plays a role in earlier age at puberty.⁵ Reproductive development may also be affected by exposure to chemicals that mimic or modify hormone action.⁵

In the 2007 California Women's Health Survey (CWHS), 4774 California women ages 18 and older were asked the following question: "How old were you when you had your first menstrual period?" If the respondent did not recall the age (N=39), she was prompted with the following: "Were you younger than 12, or were you older than 13?" These responses could be used when age was categorized at menarche as: (1) "younger age" (<12 years); (2) ages 12-13; and (3) "older age" (>13 years). The proportion of respondents in these age categories was compared by current age, race/ethnicity, and foreign- versus U.S.-born women, using a chi-square test to assess statistical significance. Responses were weighted in these analyses by age and race/ethnicity to reflect the 2000 California adult female population. These weighted proportions were also compared with the 1997 survey responses (without

Age at Menarche (or First Menses) Among California Women, 2007, by Demographic Characteristics and Compared with 1997

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Public Health Message:

Consistent with prior surveys³ and higher rates of other adverse health outcomes, African American/Black women were most likely to report a younger age at menarche. The youngest women (ages 18-24 and 25-34) also have younger age at menarche, potentially reflecting a birth cohort effect. Risk factors related to these patterns such as obesity, diet, physical activity, and chemical exposures are important to identify, as some may be modifiable with appropriate education and policies.

Figure 1

Age at Menarche by Race/Ethnicity, 2007



Source: California Women's Health Survey, 2007

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statistical testing). Mean age at menarche was examined by demographic categories as well.

Overall, 19.3 percent of women reported being younger than age 12 and 27.6 percent reported being older than age 13 when they had their first menstrual period. Mean age was 12.7 (\pm 1.7).

- Women ages 25-34 were most likely to report a younger age at menarche (23.1 percent), followed by women ages 18-24 (20.3 percent), and women ages 35 or older (17-18 percent for each category; ages 35-44, ages 45-54, ages 55-64, and ages 65 and older; $p < 0.0001$). Similarly, the youngest women (ages 18-24) had a mean age at menarche (12.3 years) about one-half year younger than women 35 or older.

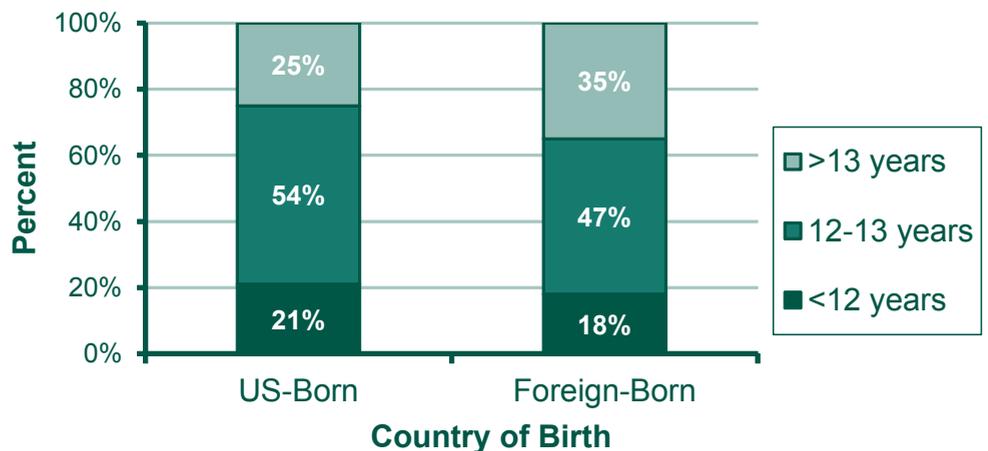
- African American/Black women were most likely to report a younger age at menarche (25.6 percent; see Figure 1), followed by Hispanic women (22.1 percent) and White women (18.3 percent), with Asian/Other women least likely (15.5 percent; $p < 0.001$). Mean age at menarche followed a similar pattern by race/ethnicity.

- U.S.-born women were significantly more likely to report younger age at menarche (20.8 percent) than foreign-born women (17.8 percent; $p < 0.0001$), who represented over a quarter of the sample (see Figure 2).

The percentage of women with a younger age at menarche in 1997 (18.8 percent) was relatively similar to 2007 (19.3 percent) and the mean age did not change much (12.8 years versus 12.7 years, respectively). African American/Black women showed a greater increase than the general population for a younger age at menarche (from 19.1 percent in 1997 to 25.6 percent in 2007).

Figure 2

Age at Menarche by Country of Birth, 2007



Source: California Women's Health Survey, 2007

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- 1 Herman-Giddens ME, Slora EJ, Wasserman RC, et al. Secondary sexual characteristics and menses in young girls seen in office practice: a study from the Pediatric Research in Office Settings Network. *Pediatrics*. 1997;99:505-512.
- 2 Euling SY, Herman-Giddens PA, Lee PA, et al. Examination of U.S. puberty-timing data from 1940 to 1994 for secular trends: panel findings. *Pediatrics*. 2008;121:S172-S191.
- 3 McDowell MA, Brody DJ, Hughes JP. Has age at menarche changed? Results from the National Health and Nutrition Examination Survey (NHANES) 1999-2004. *J Adolescent Health*. 2007;40:227-231.
- 4 Golub MS, Collman GW, Foster PM, et al. Public health implications of altered puberty timing. *Pediatrics*. 2008;121:S218-S230.
- 5 Euling SY, Selevan SG, Pescovitz OH, Skakkebaek NE. Role of environmental factors in the timing of puberty. *Pediatrics*. 2008;121:S167-S171.

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