Father absence linked to earlier puberty among certain girls

EurekAlert

Berkeley ? Girls in homes without a biological father are more likely to hit puberty at an earlier age, according to a new study led by researchers at the University of California, Berkeley's School of Public Health.

The findings, to be published Sept. 17 in the *Journal of Adolescent Health*, found that the absence of a biologically related father in the home predicted earlier breast and pubic hair development, but only for girls in higher income households. The findings held even after the girls' weight was taken into account.

"The age at which girls are reaching puberty has been trending downward in recent decades, but much of the attention has focused on increased body weight as the primary culprit," said study lead author Julianna Deardorff, UC Berkeley assistant professor of maternal and child health. "While overweight and obesity alter the timing of girls' puberty, those factors don't explain all of the variance in pubertal timing. The results from our study suggest that familial and contextual factors independent of body mass index have an important effect on girls' pubertal timing."

The findings came from the Cohort study of Young Girls' Nutrition, Environment and Transitions (CYGNET), an epidemiologic project headed by Lawrence Kushi, associate director of etiology and prevention research at the Kaiser Permanente Northern California Division of Research. The project is part of the UC San Francisco Bay Area Breast Cancer and the Environment Research Center (BCERC), one of four centers funded by the National Cancer Institute and the National Institute of Environmental Health Sciences. Early puberty has been linked to greater risk for breast and other reproductive cancers later in life, among other health impacts.

"Although the main focus of the CYGNET Study is on environmental exposures, we are also keenly interested in the social and behavioral contexts in which maturation occurs," said Kushi. "These findings demonstrate that such factors may play important roles in the onset of puberty in girls."

The link between father absence and earlier puberty in girls has been found in previous research, but most of those studies relied upon recall of the girls' first periods, and few examined the contributions of body mass index, ethnicity and income.

In this new study, researchers recruited 444 girls ages 6-8 through Kaiser Permanente Northern California, and have been following them annually. Their analysis was based on the first two years of follow-up. They considered signs of puberty that occur before the start of menarche. In interviews with the girls' caregivers, the researchers asked about the residents in the girls' homes and their

relationships to the children.

Among the girls studied, 80 reported biological father absence at the time of recruitment. Contrary to what the researchers expected, the absence of a biologically related father was linked to earlier breast development for girls in higher income families those having annual household incomes of $50,000 or more. Father absence predicted earlier onset of pubic hair development only in higher income African Americans families.

The mechanisms behind these findings are not entirely clear, the study authors said. Evolutionary biologists have theorized that the absence of a biological father may signal an unstable family environment, leading girls to enter puberty earlier.

Another theory that has been posited is that girls without a biological father in the home are exposed more to unrelated adult males specifically, the pheromones of these males that lead to earlier onset of puberty. However, in this study, the presence of other adult males, including stepfathers, in the home did not alter the findings.

It is also unclear why father absence predicted early puberty only in higher income families, particularly for African American girls.

"It's possible that in lower income families, it is more normative to rely upon a strong network of alternative caregivers," said Deardorff. "A more controversial hypothesis is that higher income families without fathers are more likely to have a single mother who works long hours and is not as available for caregiving. Recent studies have suggested that weak maternal bonding is a risk factor for early puberty."

Another possibility is that higher income girls in father-absent homes may be exposed to more artificial light which has been shown to accelerate puberty in animal studies through television, computers and other forms of technology, according to the study authors. The researchers also suggested that higher income African American girls may be more exposed to certain beauty products, such as hair straighteners, which have estrogenic properties that could influence pubertal timing.

The study adds to the debate of why girls in the United States are entering puberty at an increasingly early age. Last month, a study of 1,200 girls led by BCERC researchers at Cincinnati Children's Hospital Medical Center found that about 15 percent of the girls showed the beginnings of breast development at age 7, an increase from similar studies conducted in the 1990s.

"The hunt for an explanation to this trend is significant since girls who enter puberty earlier than their peers are not only at greater risk for reproductive cancers, they are also more likely to develop asthma and engage in higher risk sexual behaviors and substance abuse, so these studies have broader relevance to women's health," said Bay Area BCERC's principal investigator Dr. Robert Hiatt, UCSF professor and co-chair of epidemiology and biostatistics, and director of population science at the

campus's Helen Diller Family Comprehensive Cancer Center.

"In some ways, our study raises more questions than it answers," said Deardorff. "It's definitely harder for people to wrap their minds around this than around the influence of body weight. But these findings get us away from assuming that there is a simple, clear path to the earlier onset of puberty."

SOURCE [1]

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