

Puberty in girls delayed with alcohol, tobacco use

September 15 2010, By Emily Paulsen

The list of possible health effects from an early introduction to alcohol and tobacco use has just gotten longer. A new study suggests that early drinking and smoking might delay onset of puberty in girls — but the operative word is “might.”

Puberty can start as early as age 7 or 8, but most [girls](#) start to develop breasts, the first sign of [sexual development](#), between ages 9 and 13.

Late puberty in girls can have wide-ranging health effects. When puberty begins past age 13, girls might not grow as tall and their bones might not become as strong. Girls who reach puberty late have an increased risk of infertility and miscarriage and often report psychological stress.

Previous animal studies have shown that exposure to alcohol and [tobacco](#) can affect hormone levels, which in turn can delay sexual development. However, researchers have not investigated the association extensively in humans or in young girls specifically.

For the new study Jennifer Peck, Ph.D. and her colleagues at the University of Oklahoma Health Sciences Center in Oklahoma City used data from previously conducted interviews with 3,106 girls between ages 11 and 21. The girls were asked about when they started using alcohol and tobacco and the age at which they first noticed signs of sexual development.

Less than 3 percent of the girls reported alcohol or tobacco use at early

ages, but those girls were likely to notice signs of [puberty](#) later than the girls who had not reported early alcohol or [tobacco use](#).

“What catches the eye in the study — the strongest association we observed — was that girls who reported pre-pubertal alcohol use had four times the odds of late breast development compared to girls who did not use alcohol,” Peck said. The study appears online in the [Journal of Adolescent Health](#).

According to a 2009 report from the Centers for Disease Control and Prevention (CDC) on risk behaviors in youth, 21 percent of high school students drink [alcohol](#) and 10 percent smoke cigarettes before they reached the age of 13.

Phyllis Ellickson, Ph.D., an expert on early [substance abuse](#) with RAND, said the new study raises more questions than it answers. Because the research relies on data from a snapshot in time rather than following individuals over several years, she said it “doesn’t let us sort out the timing question: Does early substance abuse come before delayed development or does delayed development come before early substance abuse? Because the data are limited in scope, we can’t tell if even these very modest relationships are attributable to other factors, such as body weight, nutrition or genetics.”

Still, Ellickson said, “The bottom line is that the study raises an important issue that merits rigorous examination.”

More information: Peck JD, et al. Socio-environmental factors associated with pubertal development in females: the role of prepubertal tobacco and alcohol use. *J Adol Health* online, 2010.

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