

Low vitamin D linked to earlier first menstruation, a risk factor for health problems throughout life

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(Medical Xpress) -- A study links low vitamin D in young girls with early menstruation, which is a risk factor for a host of health problems for teen girls as well as women later in life.

Researchers from the University of Michigan School of Public Health measured the blood [vitamin D](#) levels in 242 girls ages 5-12 from Bogota, Colombia, and followed them for 30 months. Girls low on vitamin D were twice as likely to start [menstruation](#) during the study than those with sufficient vitamin D, said epidemiologist Eduardo Villamor, associate professor in the U-M SPH.

This is important for several reasons, Villamor said. Worldwide, there has been a slow decline in the age of the first menstruation, or menarche, for years, which Villamor says suggests an environmental cause, since the genetics that trigger [puberty](#) haven't changed.

"We know relatively little about what triggers puberty from an environmental perspective," Villamor said. "If we learn what is causing the decline in age of first menstruation, we may be able to develop interventions" to prevent premature menarche.

Early menstruation is a risk factor for behavioral and psychosocial problems in teens. Also, girls who have an earlier menarche appear to have increased risk of developing cardiometabolic diseases and cancer-particularly breast cancer, as adults.

This study formally explored the link between vitamin D status of girls and the time of their first menstruation. Previous research has suggested that menarche happens later in girls living closer to the Equator than girls living in northern countries.

Coincidentally, girls in northern countries may harbor high rates of vitamin D deficiency during winter months because of limited sun exposure.

In the research by Villamor and colleagues, 57 percent of the girls in the vitamin D-deficient group reached menarche during the study, compared to 23 percent in the vitamin D-sufficient group. In terms of age, girls who were low in vitamin D were about 11.8 years old when they started menstruating, compared to the other group at about age 12.6 years old. This 10-month difference is substantial, Villamor said, because even though 10 months may not seem like a long time, at that age a lot is happening rapidly to a young girl's body.

Still, while the results suggest a link between vitamin D and menarche, they have not established a causal relationship. It's necessary to do more studies to show if interventions that change girls' vitamin D status result in a change in their age of menarche.

Provided by University of Michigan

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