American Diabetes Association.

NEWS RELEASE

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Early Puberty Linked to Higher Type 2 Diabetes Risk

Alexandria, VA *(*October 24, 2013) – Early puberty is associated with an increased risk of developing type 2 diabetes later in life, according to a study being published in the November issue of *Diabetes Care*.

In this study of more than 15,000 women from eight European countries, researchers found that those who experienced menarche earlier (between the ages of 8-11 years) had a 70 percent higher incidence of type 2 diabetes compared with those who started menarche at age 13 (the median age). Previous studies have shown an association between the age of menarche (the onset of first menstruation, a marker for the onset of puberty) and other poor health outcomes, such as obesity, cardiovascular disease, some types of cancer and mortality.

In contrast to the increased risk of type 2 diabetes in women with early sexual maturation, there was no increase in protection from type 2 diabetes associated with a late (after the age of 15) onset of menarche compared with the average age.

"The body is undergoing many changes during puberty," said Cathy Elks, PhD, a research fellow at the MRC Epidemiology Unit, University of Cambridge, England. "Our research, as well as previous, related studies, suggests that the biological factors implicated in the timing of development may have a role in the development of type 2 diabetes , despite the fact that these processes occur many years before the manifestation of disturbed glycemic control."

While girls that develop earlier are more likely to be overweight in adulthood, which is itself a strong risk factor for type 2 diabetes, the elevated risk of type 2 diabetes associated with early menarche was still apparent after accounting for adiposity. Around half of the increased risk of type 2 diabetes conferred by early menarche could be attributed to increased body mass index (BMI); women with a history of early menarche had a 42 percent higher risk of developing diabetes independently of how heavy they were. Other lifestyle and reproductive factors did not appear to further explain the observed association.

The authors noted that an increase in the development of type 2 diabetes in recent decades coincides with a parallel decrease in the average age of menarche. The link between early puberty and glucose regulation is also supported by research that shows that treatment with the diabetes drug metformin delays the onset of menarche in girls experiencing other signs of very early puberty.

"These findings suggest that early puberty has an effect on metabolic disease risk which is partially mediated by increased BMI, but also has some direct effect through other biological pathways which act independently of adiposity," the authors concluded.

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The American Diabetes Association is leading the fight to Stop Diabetes and its deadly consequences and fighting for those affected by diabetes. The Association funds research to prevent, cure and manage diabetes; delivers services to hundreds of communities; provides objective and credible information; and gives voice to those denied their rights because of diabetes. Founded in 1940, our mission is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. For more information please call the American Diabetes Association at 1-800-DIABETES (1-800-342-2383) or visit www.diabetes.org. Information from both these sources is available in English and Spanish.

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