Objective: To evaluate associations of early menarche and menstrual characteristics with adult-onset asthma among women of reproductive age.

Methods: Study participants were selected from among women enrolled in a pregnancy cohort study. Information on age at menarche, menstrual characteristics, and history of asthma was collected using interviewer-administered questionnaires. Adult-onset asthma was defined as asthma first diagnosed after onset of menarche. Women who had no information on asthma and menstrual history were excluded. In addition, women who were diagnosed with asthma before menarche were excluded. A total of 3,461 women comprised the analytic population. Logistic regression was used to estimate adjusted relative risk (aRR) and 95% confidence intervals (95% CI) relating age at menarche and menstrual characteristics with adult-onset asthma.

Results: Mean age at menarche was 12.8 years (standard deviation = 1.46). Among study participants, 7.5% were diagnosed with asthma after the onset of menarche. After controlling for potential confounders (age, race, body mass index, and socio-economic status), women who had early menarche (<12 years old) had 60% higher risk of being diagnosed with adult-onset asthma as compared with women who did not have early menarche (≥ 12 years old) (aRR 1.59, 95% CI 1.19, 2.13). Menstrual irregularities or abnormal (short or long) cycle length were not associated with risk of adult-onset asthma. In addition, no significant interaction was observed between age at menarche or
menstrual characteristics with body mass index or physical activity (in adolescence) in relation to adult-onset asthma.

Conclusion: Early menarche is associated with a higher risk of developing adult-onset asthma among women of reproductive age. Mechanisms for this association are potential areas of future research.

Thesis Committee:

Daniel Enquobahrie, MD PHD (Chair)

Michelle Williams, ScD