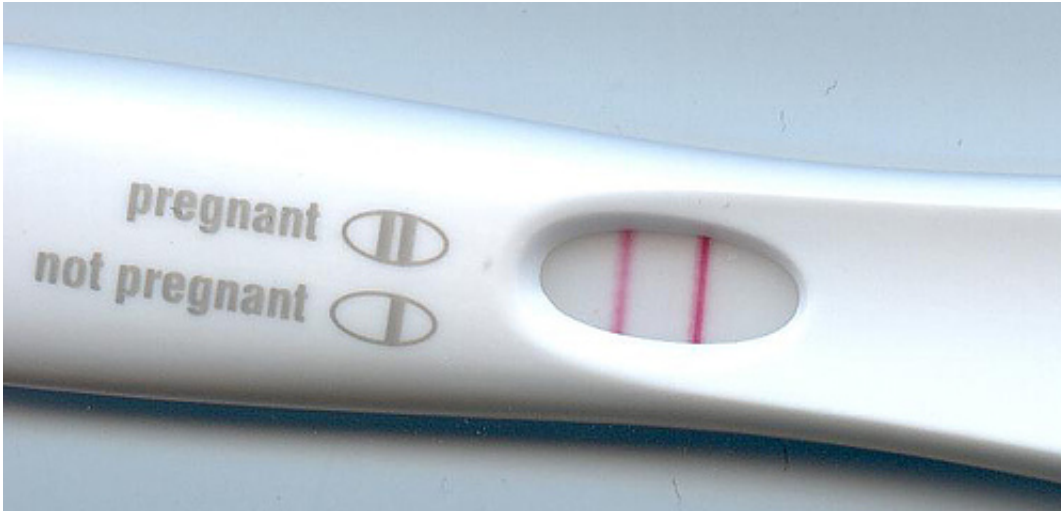


Shorter women have shorter pregnancies

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Pregnancy test. Credit: public domain

Shorter mothers have shorter pregnancies, smaller babies, and higher risk for a preterm birth. New research has found that a mother's height directly influences her risk for preterm birth.

Investigators at the March of Dimes Prematurity Research Center Ohio Collaborative looked at 3,485 Nordic women and their babies, and found that maternal height, which is determined by genetic factors, helped shape the fetal environment, influencing the length of pregnancy and frequency of prematurity. In contrast, birth length and birth weight are mainly influenced by transmitted genes. Preterm birth is the number one killer of newborns in the United States and serious gaps exist between racial and ethnic groups.

More than 450,000 babies are born too soon in the U.S. and the national preterm birth rate is worse than many other high-resource countries, the March of Dimes says. Worldwide, 15 million babies are born preterm, and more than one million die due to complications of an early birth. Babies who survive an early birth face serious and lifelong health problems, including breathing problems, jaundice, vision loss, cerebral palsy and intellectual delays.

"A major goal of the nationwide network of March of Dimes prematurity research centers is identifying genes that govern fetal growth and length of pregnancy. That a woman's height influences gestational length, independent of the genes she passes on that determine fetal size, is a major finding by our research networks, and the first of what we expect to be many genetic contributions," said Joe Leigh Simpson, MD, March of Dimes senior vice president for Research and Global Programs.

"The innovative, team-based model of our prematurity research centers is critical to understanding the unknown causes of preterm birth. This new finding adds one small piece toward solving the much larger puzzle of [preterm birth](#)," says Dr. Jennifer L. Howse, president of the March of Dimes.

The March of Dimes is raising \$75 million to support its five prematurity research centers. These unique, transdisciplinary centers bring together the brightest minds from many diverse disciplines—geneticists, molecular biologists, epidemiologists, engineers, computer scientists, and others—to work together to find answers to prevent premature birth. In addition to the Ohio Collaborative, the March of Dimes has established research centers at Stanford University School of Medicine in California, at the University of Pennsylvania, at Washington University in St. Louis, and at the University of Chicago, Northwestern University and Duke University.

"Our finding shows that a mother's height has a direct impact on how long her pregnancy lasts," said Louis Muglia, MD, PhD, the primary investigator of the Ohio Collaborative, and co-director of the Perinatal Institute at Cincinnati Children's Hospital Medical Center. "The explanation for why this happens is unclear but could depend not only on unknown genes but also on woman's lifetime of nutrition and her environment."

More information: The research paper, "Assessing the Causal Relationship of Maternal Height on Birth Size and Gestational Age at Birth: A Mendelian Randomization Analysis," was published online Aug. 18 by *PLoS Medicine*.

Provided by March of Dimes Foundation

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