

## Mom's weight during first pregnancy may impact second child

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Jen Jen Chang, Ph.D, left, and Maya Tabet are members of the Saint Louis University research team who found a correlation between a mother's weight when she first became pregnant and how her subsequent babies do. Credit: Photo by Maggie Rotermund

A woman's weight during her first pregnancy can affect how her second baby fares, Saint Louis University research finds.

Physicians have long recognized complications can occur when a mother

is not at a healthy weight when she first becomes pregnant. Saint Louis University's research, published electronically in the June 20 issue of the *American Journal of Obstetrics and Gynecology*, shows that those complications can surface during a second pregnancy even if they didn't occur during a first pregnancy or if the mother is at a healthy weight when she becomes pregnant a second time.

The majority of women are not at a healthy weight when they first become pregnant, which means their Body Mass Index (BMI) is either higher or lower than recommended by the National Institutes of Health. It is more common to have a high BMI than a low one.

"While moms who weigh too much or too little might have uncomplicated pregnancies and deliver healthy babies the first time around, our research shows they are still at increased risk of adverse outcomes during their second pregnancies. That risk may not go away even if they are at a normal weight when they get pregnant again," says Jen Jen Chang, Ph.D., associate professor of epidemiology at Saint Louis University and the senior author on the paper.

"The bottom line for physicians and second-time moms is not to let down their guard even if things went well for moms with unhealthy weight during the first pregnancy or if those moms reach a normal weight when they become pregnant again."

Chang said it is unclear why women with unhealthy weight but no complications during a first pregnancy would develop them during a second one.

"I suspect our body remembers, but we don't know for certain," she suggested. "Women who are over or underweight during their first pregnancy may experience permanent physiological changes that negatively affect their second baby."

Researchers surveyed records of 121,092 women in the Missouri maternally-linked birth registry, from the years 1989-2005. They found that women who were underweight during their first pregnancy had a 20 percent increased chance of giving birth early and were 40 percent more likely to have a baby who is small for [gestational age](#) during their second pregnancy, when compared to women of healthy weight.

In addition, women who were obese when they first became pregnant were significantly more likely than women of normal weight to face complications during their second pregnancy. Specifically, they were 54 percent more likely to have a large for gestational age baby, 156 percent more likely to have preeclampsia and 85 percent more likely to deliver by cesarean. Their babies were 37 percent more likely to die within the first 28 days of life.

While neonatal deaths occur in about 4 of every 1,000 live U.S. births and are declining, each year about 17,000 infants die within their first month.

"Our finding that obese women are at increased risk of neonatal death in a subsequent pregnant, even if their first [pregnancy](#) was uncomplicated, has significant public health repercussions and warrants further research," Chang said.

The researchers recommended health professionals counsel women who are in their child-bearing years on the potential problems an unhealthy weight could pose for pregnant mothers and babies.

"It's best for women who are of a reproductive age to maintain a [healthy weight](#) before they become pregnant for the first time," said Maya Tabet, M.S., a doctoral student at Saint Louis University College for Public Health and Social Justice and first author on the paper.

"Those women whose Body Mass Index (BMI) was too high or too low during their first pregnancies should be carefully monitored during subsequent pregnancies. The long-term consequences for [women](#) who are at an unhealthy weight when they first become pregnant carry considerable public health implications."

Provided by Saint Louis University

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