

# Month of conception might raise odds of premature birth

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Mom's exposure to flu during third trimester appears to be a key risk factor, researchers say.

(HealthDay)—What time of year a baby is conceived may raise the chances of a premature birth, new research suggests.

Investigators found that children conceived during the month of May faced a 10 percent increase in risk relative compared to babies conceived at other times of the year.

The study authors believe that may be a function of the expectant mother's increased exposure to the seasonal flu during January and February, exactly when a baby conceived in May would be nearing term.

"We were surprised that the relationship between potential flu exposure

and premature birth appears to be so evident in the data," said study author Janet Currie, director of the Center for Health and Wellbeing at the Woodrow Wilson School at Princeton University. "There has been some recent work suggesting that flu can induce premature labor in women late in pregnancy, and our results appear to corroborate this."

Currie, who conducted the study with researcher Hannes Schwandt, added that if [pregnant women](#) got flu shots, they might not be at risk of [premature labor](#) due to flu infection.

The findings were reported online in the current issue of the journal *Proceedings of the National Academy of Sciences*. The study uncovered an association between month of conception and [premature birth](#), but it didn't prove cause-and-effect.

To explore the potential impact of conception timing on [infant health](#), the researchers analyzed data on roughly 647,000 mothers in the northeastern region of the United States, all of whom had given birth to more than one child.

In addition to dates of birth and lengths of pregnancies, the data included information on maternal weight changes, race, education and smoking history.

The research team noted that by looking solely at the conception-to-birth experience of more than 1.4 million siblings (as opposed to non-related babies), they were able to compare apples to apples, and sidestep other complicating factors that might influence prematurity risk, such as a family's wealth or educational background.

The result: The authors identified a "sharp trough" in the length of pregnancies that began in May.

By further lining up birth and month-by-month conception records alongside post-1997 influenza data that had been collected by the U.S. Centers for Disease Control and Prevention, the team found a correlation between May conceptions and a notable increase in flu exposure during the third trimester of such pregnancies.

What's more, babies conceived during the summer months tended to weigh slightly more at birth than babies conceived at other times of the year.

"The birth weight results suggest that infants conceived during the summer have higher birth weight in part because mothers tend to gain more weight during pregnancy when they conceive in summer," Currie said. "It seems likely that this is because they have a better diet, though we cannot directly observe that in our data.

"We cannot rule out other factors that might also be important for pregnancy outcomes," she said. "But we think the message of our paper is that parents should take steps to guard against known problems," suggesting that the most practical thing pregnant women can do is simply eat well and get a seasonal flu shot. "That would probably be a more sensible approach than trying to time conception to avoid May."

Two doctors with Scott & White Healthcare in Texas described the study as "interesting," while stressing the need for pregnant women to get a flu shot.

"Avoiding conception during certain times of the year is an option," said Dr. Nancy Bertsch, an obstetrician and gynecologist at Scott & White's College Station Clinic. "But if the authors' theory is correct and the increased rate of prematurity is related to seasonal spikes in flu cases, a better option is for us to do a better job preventing the flu."

Bertsch said the American College of Ob/Gyns and the CDC both recommend that all pregnant women get a [flu shot](#) during pregnancy.

"It's a perfectly safe vaccine for both mother and baby," she said. "We already know that a pregnant woman with the flu can be much sicker than a non-pregnant woman, and can end up with much more serious consequences for both her and her baby. If getting a [flu](#) vaccine during pregnancy also lowers the risk of prematurity, that's just one more reason to get it."

Dr. Richard Jones, medical director of obstetric service at Scott & White's Temple Clinic, agreed.

"Following those recommendations would be expected to provide better outcomes than trying to time the month of conception, since about half of pregnancies are unintended and unplanned," he said

**More information:** Paper:

[www.pnas.org/content/early/2013/07/03/1307582110](http://www.pnas.org/content/early/2013/07/03/1307582110)

For more on pregnancy and the flu shot, visit the [U.S. Centers for Disease Control and Prevention](#).

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