

A fetus can sense mom's psychological state

November 10 2011, By Divya Menon

(Medical Xpress) -- As a fetus grows, it's constantly getting messages from its mother. It's not just hearing her heartbeat and whatever music she might play to her belly; it also gets chemical signals through the placenta. A new study, which will be published in [Psychological Science](#), a journal of the Association for Psychological Science, finds that this includes signals about the mother's mental state. If the mother is depressed, that affects how the baby develops after it's born.

In recent decades, researchers have found that the environment a fetus is growing up in—the mother's womb—is very important. Some effects are obvious. Smoking and drinking, for example, can be devastating. But others are subtler; studies have found that people who were born during the Dutch famine of 1944, most of whom had starving mothers, were likely to have health problems like obesity and diabetes later.

Curt A. Sandman, Elysia P. Davis, and Laura M. Glynn of the University of California-Irvine study how the mother's [psychological state](#) affects a developing fetus. For this study, they recruited pregnant women and checked them for depression before and after they gave birth. They also gave their babies tests after they were born to see how well they were developing.

They found something interesting: what mattered to the babies was if the environment was consistent before and after birth. That is, the babies who did best were those who either had mothers who were healthy both before and after birth, and those whose mothers were depressed before birth and stayed depressed afterward. What slowed the babies'

development was changing conditions—a mother who went from depressed before birth to healthy after or healthy before birth to depressed after. “We must admit, the strength of this finding surprised us,” Sandman says.

Now, the cynical interpretation of our results would be that if a mother is depressed before birth, you should leave her that way for the well-being of the infant. “A more reasonable approach would be, to treat women who present with prenatal depression. Sandman says. “We know how to deal with depression.” The problem is, women are rarely screened for depression before birth.

In the long term, having a depressed mother could lead to neurological problems and psychiatric disorders, Sandman says. In another study, his team found that older children whose mothers were anxious during pregnancy, which often is co morbid with depression, have differences in certain brain structures. It will take studies lasting decades to figure out exactly what having a depressed mother means to a child’s long-term health.

“We believe that the human [fetus](#) is an active participant in its own development and is collecting information for life after birth,” Sandman says. “It’s preparing for life based on messages the mom is providing.”

Provided by Association for Psychological Science

Citation: A fetus can sense mom’s psychological state (2011, November 10) retrieved 3 May 2024 from <https://medicalxpress.com/news/2011-11-fetus-moms-psychological-state.html>

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