Smaller babies more prone to depression, anxiety later on

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Turns out there might be some truth to the popular wisdom that plump babies are happy babies. A landmark public health study has found that people who had a low birth weight are more likely to experience depression and anxiety later in life.

“We found that even people who had just mild or moderate symptoms of depression or anxiety over their life course were smaller babies than those who had better mental health,” said lead author Ian Colman of the University of Alberta’s School of Public Health. “It suggests a dose-response relationship. As birth weight progressively decreases, it’s more likely that an individual will suffer from mood disorders later in life.”

The study, published in the December 2007 issue of *Biological Psychiatry*, analyzes information drawn from the Medical Research Council National Survey of Health and Development, one of the longest-running cohort studies in the world. The survey tracked more than 4,600 people born in Great Britain in 1946 for symptoms of anxiety and depression over a 40-year period.

The results represent an important chapter in the “nature versus nurture” debate, supporting the theory that conditions in the womb do indeed have an effect on our future development.

The connection between birth weight and mental health isn’t the only fascinating find made by Colman and colleagues at the University of Cambridge and University College London in England. “One of the

surprising findings from our research was that people who had worse mental health throughout their lives had also reached developmental milestones—like standing and walking for the first time—later in life than those who had better mental health," said Colman.

The researchers emphasize they are not saying all small babies will experience poor mental health in the future. They also say this study is not about babies born full-term versus babies born premature, since the data collected back in 1946 made no mention of gestational age at birth.

"Being born small isn't necessarily a problem. It is a problem if you were born small because of adverse conditions in the womb—and low birth weight is what we looked at in this study because it is considered a marker of stress in the womb. When a mother is really stressed, blood flow to the uterus is restricted and the fetus gets fewer nutrients, which tends to lead to lower birth weight," explained Colman.

At the same time, because the mother is stressed, stress hormones are passing through the placenta to the fetus and may affect the fetus's neurodevelopment and stress response. "Under these conditions, the part of the child's brain that deals with stress could be programmed incorrectly in utero—the brain doesn't develop as it would under ideal circumstances. If this theory is correct, you would find that when stressful events occur, the people who were smaller babies would be more likely to become depressed or anxious," said Colman.

Notable strengths of this study include the nationally representative sample, the sample size, and the long follow-up with the members of the 1946 cohort, whose anxious and depressive symptoms were measured at 13, 15, 36, 43 and 53 years of age.

"The idea that things that are happening in the womb might predict your health much later on in life is absolutely fascinating. And the public

health implications of that are huge," said Colman. "I have been asked by many people what the 'take-home message' of this study is, and I would say that, in the simplest terms, it is 'We should take better care of pregnant women.' The kind of stress that pregnant mothers are under has a significant long-term effect on the developing fetus."

Source: University of Alberta