

# Too much or too little weight gain poses risks to pregnant mothers, babies

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Women who gain more or less than recommended amounts of weight during pregnancy are likely to increase the risk of problems for both themselves and their child, according to a new report by the RTI International-University of North Carolina at Chapel Hill Evidence-based Practice Center.

The report, which was supported by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ) in partnership with the American Dietetic Association, is based on a systematic review of 150 studies that assessed the short- and long-term effects of maternal weight gain on pregnancy, mothers, fetuses, and children. The studies were published in English between January 1990 and October 2007.

Among the report's key findings is a strong association between high maternal weight gain and increased fetal growth and infant birth weight, which can contribute to complications during labor if a baby is too big, and can lead to long term health effects for the child. High maternal weight gain also is associated with cesarean delivery and weight retention by mothers after childbirth.

The review also confirmed that gaining too little weight during pregnancy can be a problem. Low maternal weight gain is associated with poor fetal growth, lower birth weight, and the chance of a baby being born prematurely.

The report was prompted by several trends, including an increase in the number of American women who are overweight and obese, as well as the number who gain more weight during pregnancy than amounts laid out in the Institute of Medicine's 1990 recommendations for maternal weight gain. Public health officials also are concerned about an increase in pregnancy complications such as diabetes and cesarean delivery.

The Institute of Medicine is currently reviewing its pregnancy weight guidelines to see if they need to be revised; it expects to issue a report next summer.

“Unfortunately, the existing body of research on maternal weight gain is inadequate to permit a more comprehensive assessment,” said Meera Viswanathan, Ph.D., the study director and a senior research analyst at RTI International. “Most beneficial would be an analysis that considers the risks and potential benefits of various maternal weight-gain scenarios to all women – irrespective of age, race or ethnicity, or their body mass index before they became pregnant. But such an analysis is not possible at this time.”

Her research colleague at UNC, Anna Maria Siega-Riz, Ph.D., agreed.

“Despite the large body of research, clear clinical recommendations based on this systematic review will be challenging to formulate because of major shortcomings in this research,” said Siega-Riz, an associate professor in the UNC School of Public Health's epidemiology and nutrition departments. “To fully understand the effects of maternal weight gain on short- and long-term health outcomes for both women and infants, future studies will need to adopt standard measures and consistent definitions of exposures and outcomes.”

The researchers said future studies will need to examine multiple outcomes within the same study population to explore fully the trade-

offs between the risks and benefits to the mother and to the child.

Source: University of North Carolina at Chapel Hill

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