

# Why Pregnant Women Shouldn't Gain Too Much or Too Little Weight

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Some women gain a lot of weight during their pregnancy, while others simply don't gain enough. Now, a new study finds that gaining too much or too little weight during pregnancy may increase the risk of having an overweight or obese child. What's more, gestational weight gain had a greater impact on childhood overweight/obesity among normal-weight women, suggesting that the effect may be independent of genetic predictors of obesity.

The study, conducted by Kaiser Permanente, was published in the *American Journal of Obstetrics and Gynecology*. It is one of the largest studies to look at the 2009 Institute of Medicine (IOM) recommendations regarding pregnancy weight gain in relation to childhood obesity, according to Kaiser.

## How Much Weight Should You Gain?

The researchers studied 4,145 women, who filled out a health survey while they were pregnant, between 2007 and 2009, and then subsequently gave birth.

For obese women (BMI of 30 or greater), the recommended weight gain during pregnancy is 11 to 20 pounds; for overweight women (BMI between 25 and 29), it is 15 to 25 pounds; for normal weight women (BMI between 18.5 and 25), it is 25 to 35 pounds; and for underweight women (BMI less than 18.5), it is 28 to 40 pounds.

Childhood overweight/obesity was defined as a body mass index (BMI) z-score of the 85th percentile or greater of the Centers for Disease Control and Prevention (CDC) child growth standards.

## Obese and Overweight Children

Looking at the medical records of those children, who were between ages 2 and 5 years old, the researchers found that among all women who gained more than the recommended weight during pregnancy, 20.4 percent of their children were overweight or obese, compared with 19.5 percent of the children of women who gained less than the recommended weight and 14.5 percent of those of women who gained weight within the guidelines.

The study also found that women who had a normal BMI measurement prior to being pregnant, but who gained less than the recommended amount, were 63 percent more likely to have a child who became overweight or obese.

What's more, women with a normal BMI before pregnancy with weight gain above the recommendations were 80 percent more likely to have an overweight or obese child.

## **Everything in Moderation**

Commenting on the study, **nutritionist Franci Cohen**, M.S., told Healthline, "Americans tend to flock toward extreme behavior, such as binge eating or starving, over exercising, or skipping it entirely. Finding a middle ground, and adopting moderate behavior with all aspects of lifestyle, has become increasingly challenging, making Americans more susceptible and vulnerable to develop illnesses."

Emphasizing that many pregnant women try to watch their weight, while others think the term pregnancy is synonymous with what she termed, "food fest," Cohen said, "This can reap havoc on an unborn baby. Whether you eat too little or too much, your body's homeostatic mechanisms will kick in and make sure your baby draws the needed vitamins and minerals for growth from you. But, by forcing the body to undergo these regulatory processes, you are inevitably setting the stage for a faulty metabolism and damaging your baby's ability, as a child and adult later on in life, to maintain energy balance in the body, and to properly control hunger and satiety, which are all integral factors in obesity."

Pointing out that moderation is important, Cohen said, "BMI's, pre-pregnancy body weight, progressive amount of weight gain throughout the pregnancy, healthy diet, and being active, are all variables to take into consideration before, during, and after pregnancy. "This will ensure both mommy and baby are healthy and fit," said Cohen.

Also weighing in on the study results, Alissa Rumsey, RD, CDN, CNSC, CSCS, a registered dietitian and spokesperson for the New York State Dietetic Association, told Healthline that the results of this study reinforce the negative effects of gaining more than the recommended weight during pregnancy, even in women with normal pre-pregnancy BMIs.

"While we can't say with statistical significance that women gaining below the IOM weight recommendations have a greater chance of an overweight or obese child, gaining too little weight has been shown to have other deleterious effects, such as pre-term and/or low birthweight babies who are at greater risk for neurodevelopmental and lower respiratory tract conditions than normal weight infants."

Rumsey suggests healthcare providers give pregnant women weight gain goals specific to their individual BMI in order to improve the likelihood of healthy outcomes for both mothers and babies. "Pregnant women can help to ensure a healthy infant by eating an appropriate amount of healthy foods, participating in a moderate amount of physical activity, and carefully monitoring their weight gain. Women should talk to their doctors and a dietitian about how many calories they should eat each day, and how to gain the right amount of weight," she advised.

## **Genetic Factors May Not Be to Blame**

Senior research investigator Monique M. Hedderson, Ph.D., at Kaiser Permanente Division of Research in Oakland, CA, said in a press statement, "The stronger association we found among normal weight women who gained too much or too little weight during pregnancy suggests that perhaps weight gain in pregnancy may have an impact on the child that is independent of genetic factors."

## **Long-Term Effects on Children**

The study's lead author, Sneha Sridhar, MPH, Kaiser Permanente Division of Research, said in the press statement that gaining either too little or too much weight in pregnancy may permanently affect mechanisms that manage energy balance and metabolism in the offspring, such as appetite control and energy expenditure. Sridhar believes this finding could potentially have long-term effects on the child's subsequent growth and weight.