

Intervention helps women manage weight during and after pregnancy

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Excessive weight gain isn't healthy at any stage of life, but during pregnancy it can do lasting harm to the mother and baby alike. Now researchers at Brown University and The Miriam Hospital are encouraged by a new study describing an intervention that helped pregnant women control their weight.

"This study suggests that a [lifestyle intervention](#) can help women manage their weight during pregnancy, prevent health problems during pregnancy, and reduce weight retention after having a baby," said study lead author Suzanne Phelan, adjunct assistant professor of psychiatry and human behavior at Brown and an associate professor of kinesiology at California Polytechnic State University.

Women whose weight was in a normal range before pregnancy were more likely to stay at a healthy weight if they received the intervention during pregnancy compared to women who received standard care, according to the randomized controlled study of 400 women, published online this month in the [American Journal of Clinical Nutrition](#). The intervention also increased the chance of returning to their pre-pregnancy weight six months after delivery. The intervention did not help women who were obese or overweight before becoming pregnant to stay within the recommended weight gain goals during pregnancy, but it did help them return to their pre-pregnancy weight after delivery.

"I think it's an important study," said co-author Rena Wing, professor of psychiatry and human behavior at the Warren Alpert Medical School of

Brown University and The Miriam Hospital. "The goal during pregnancy is to help women gain within the recommended amounts. Our study succeeded for normal weight women, but we need to develop a more effective approach for women who are overweight or obese."

The Institute of Medicine's latest guidelines recommend, for example, that normal-weight women gain between 25 and 35 pounds and that [obese women](#) gain 11 to 20 pounds. Otherwise, the health consequences for expectant mothers and their babies could be serious, said study co-author Maureen Phipps, interim chair of obstetrics and gynecology at the Alpert Medical School and Women & Infants Hospital.

"Excess weight gain during pregnancy increases the risk for developing gestational diabetes and problems with high blood pressure during pregnancy," Phipps said. "Obesity is associated with an increased risk for cesarean delivery, fetal growth problems, and premature birth. In addition to adding to the difficulty of losing weight post partum, excess weight gain during pregnancy can have long-term health consequences for both the mother and the infant."

Fit for delivery

The team devised an intervention that they hoped would be effective, but also "low-intensity" so that clinicians and patients could stick with it. Patients randomly selected to receive the intervention went to an initial, face-to-face meeting with an interventionist who coached them on topics such as what constitutes healthy pregnancy weight gain, the need for physical activity such as walking, calorie goals, reducing fat intake and daily self-monitoring. Women received scales, pedometers and forms for recording what they ate.

From there, the intervention proceeded exclusively via the mail and by phone with weekly reminder postcards and three calls from a dietitian to

offer encouragement. After each visit to their doctor's office, the women would also receive graphs showing them their [weight gain](#) compared to what would be ideal based on health guidelines. Women who were gaining too much or too little received additional follow-up coaching calls from the study dietitian.

Among normal-weight women who received the intervention, 40.2 percent gained more than the IOM recommendations, but among comparable women who did not receive the intervention, 52.1 percent gained too much. Six months after delivery, 35.6 percent of women who received the intervention were at or below their pre-pregnancy weight, compared to only 20.7 percent who received only standard care.

Obese or overweight women struggled more to control their weight during pregnancy. Exactly two thirds — 66.7 percent — of obese or overweight women who received the intervention and 61.1 percent of those who did not gained more than the 1990 IOM recommendation (the study took place before the newest guidelines for obese women). That difference between those who received the intervention and those who did not, Wing said, was not statistically significant. But after birth, obese or overweight women did gain a statistically significant benefit from the intervention: 25.6 percent of those in the intervention group returned to their pre-pregnancy weight or below, compared to only 16.7 percent of women who received standard care.

"What might have happened is that obese and overweight women learned skills during the pregnancy that they had difficulty implementing at that time," Wing said. "After the [pregnancy](#) they were able to implement these skills more effectively and so got back to their pre-pregnancy weights."

Normal-weight women may have also benefitted medically from the intervention. Women in the intervention group were nearly four times

less likely to experience high blood pressure and three times less likely to have preeclampsia, but Wing cautioned that the absolute numbers of women showing symptoms in either group — fewer than a dozen — was very small, making the results difficult to interpret.

Future directions

Wing's research group will now look at how the intervention might be tweaked to be more helpful for obese [women](#) while they are still pregnant.

Phelan, meanwhile, said she is interested in getting the intervention into the hands of doctors.

"One of the next steps is to implement the intervention as part of standard care," she said. "We designed the intervention with dissemination in mind, and so another study will test its effects as part of clinical practice."

Provided by Brown University

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