

If expectant moms put on the pounds, so do the kids

NO WONDER America has a growing weight problem: its children are being condemned to a life of obesity while still in the womb. According to two new studies, overeating by expectant mothers is an important but overlooked factor in the inexorable expansion of the nation's waistlines. More alarming is the conclusion of one of the new studies, from a team at Harvard Medical School, that even women who follow official advice on how much weight they should gain during pregnancy may be priming their children to become obese.

In the US 16 per cent of children are classed as obese - a threefold increase since 1980. Among adults, the obesity rate is 30 per cent. That's a major concern, because obese people suffer from health problems, including heart disease, diabetes and stroke. So far, public health strategists have fought childhood fat by promoting healthy eating and exercise among children themselves.

But the Harvard team, led by Matthew Gillman, and another group led by Andrea Sharma of the US Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, decided to investigate the effect of weight gain during pregnancy. Last month in Toronto, Canada, they told the third International Congress on Developmental Origins of Health and Disease that the children of women who put on a lot of weight during pregnancy were particularly prone to obesity.

Obstetricians agree that it is important for women to gain some weight - beyond that of the developing fetus - if they are to have a healthy pregnancy. Guidelines issued by the US Institute of Medicine (IOM) in 1990, taking into account that women have different builds, suggest that a "normal" woman should gain between 11.5 and 16 kilograms, including the weight of the fetus. The World Health Organization suggests a similar range of 10 to 12.5 kilograms.

Gillman's PhD student Emily Oken divided her study group of 770 pregnant women from Massachusetts into those who gained "inadequate", "adequate" and "excessive" amounts of weight according to the IOM guidelines. In both of the last two groups, children were on average already overweight by the age of 3. "Only the 'inadequate' group gives a result that is where you want to be," says Gillman.

Sharma, meanwhile, scoured national health records and found a correlation between pregnancy weight gain and obesity among children aged 2 to 4. But her team found that it was mothers who had piled on more pounds than the IOM recommends who were more likely to have obese children - not the "adequate" weight-gainers. "Our data suggest that it's excessive weight gain that is the problem," Sharma says.

It is unclear why the two studies produced different conclusions. Sharma's study was much larger, incorporating some 190,000 families. But because the Harvard group could follow their volunteers in more detail, they may have controlled more effectively for other factors influencing the results. Oken found that the relationship between pregnancy weight gain and childhood obesity remained strong after controlling for factors including race, parental smoking, household income and fetal growth during pregnancy.

["Even women who follow official advice on weight gain during pregnancy may be priming their children to become obese"](#)

The IOM is planning to convene a workshop in spring 2006 to consider new data on the consequences of weight gain during pregnancy, including studies on childhood obesity.

In the meantime, researchers are warning pregnant women against adopting a starvation diet in the hope of having svelte, healthy children. Not only is it important to resolve the discrepancy between the two studies, they say, but women who fail to gain sufficient weight during pregnancy are also at greater risk of problems, including premature births. "It depends on what outcome you look at," says Naomi Stotland, an obstetrician at the University of California, San Francisco.

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