



Mum's diet shapes a child's future weight

By **Ellen Connolly**
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Sunday Telegraph

- Australian scientists in pre-natal breakthrough
- Overweight mums produce overweight children
- Children condemned to overeating and obesity

AUSTRALIAN scientists have made the world-first discovery that a pregnant woman's diet determines whether her baby grows into a fat adult or a skinny one.

The research suggests women who are overweight before they fall pregnant, and during it, may condemn their children to a life of overeating and obesity.

It reveals that a mother's diet during pregnancy affects the baby's brain circuits, determining appetite and energy expenditure in their offspring.

"This suggests that mothers should think twice about overindulging, or using the excuse that they're eating for two during pregnancy," University of NSW professor Margaret Morris said.

Pre-natal period programs a child's future appetite

Unlike previous studies, the groundbreaking work highlights the pre-natal period as a critical time for "programming of post-natal and adult appetite".

It found that even before a woman falls pregnant, she is potentially "programming" a child's future appetite.

"The major finding is the dramatic increase in body fat in offspring of overweight and obese mothers," Professor Morris said.

Mothers fed a high-fat diet had offspring that were heavier, with more body fat and altered appetite regulators in the brain, meaning they overate, she said.

The results are supported by a study published in the *British Journal of Nutrition* last year. It found that mothers who eat junk food during pregnancy may produce children who crave the same foods.

Professor Morris will present her findings at the Australian Neuroscience Society conference in Hobart this week.

She said the study was particularly relevant, given that about 30 per cent of mothers enter pregnancy in an overweight or obese condition.

Study mated overweight female rates with healthy males

The study was conducted using overweight female rats who mated with healthy males.

The females continued to be fed a high-fat Western diet during and after pregnancy, Professor Morris said.

"The mums were overeating for that whole period. We found the offspring were a third heavier than the rats fed a low-fat diet," she said.

Professor Morris said the brain pathways regulating appetite in rats were similar to those in humans, suggesting similar trends could be expected in people.

Sydney University nutritionist Dr Jenny O'Dea said it had become "quite well accepted" that a woman's diet during pregnancy impacted on the fetus.

"We also know that obesity during pregnancy more often than not causes gestational diabetes and high blood pressure," Dr O'Dea said.

Pregnant women should not 'eat for two'

She said that although nutritional needs were high during pregnancy, women should not be "eating for two".

Professor Morris studied mothers who were already overweight before they fell pregnant. The experiment results also found their offspring were showing signs of developing diabetes at a young age.

The findings are particularly relevant for overweight mothers, highlighting the importance of maintaining a normal weight before and during pregnancy.

Further research will examine how methods of intervention during breastfeeding can reverse bad nutritional habits and overeating.

Susie Burrell, a pediatric dietitian at The Children's Hospital at Westmead, said the study sent a powerful message to women planning to fall pregnant.

"They need to get their weight under control before conceiving, and those who are pregnant need to have minimum weight-gain during pregnancy," Ms Burrell said.

She said an increasing number of women were overweight before they fell pregnant, creating a "snowball effect".

"Their babies are more likely to have a high birth weight. This then leads to lifestyle diseases such as type 2 diabetes and heart disease."

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