Overweight mums have chubby bubs

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University of New South Wales (UNSW) research has highlighted a link between childhood obesity and a mother's diet before and during pregnancy. The work in animals proves that overweight expectant mothers are more likely to have babies with more body fat, who are at greater risk of diabetes and lipid metabolic disorders later in life.

Previous research shows that around 30 percent of women who become pregnant are overweight.

The research, published in the journal *Endocrinology*, shows pups from obese mother rats who were fed more milk are almost twice as heavy as those born to lean mothers with a regular milk consumption at weaning age.

The cafeteria diet used to feed the mother rats is designed to approximate a western diet which people eat everyday at home. It is of high fat content, and palatable with a lot of variety.

The research found that the mother rats ate more than double the calories of the control group.

"Maternal obesity and overfeeding early on in life caused significant changes in the chemicals that regulate appetite, which may suggest that the babies were programmed to eat differently from those born from lean mothers," says Professor Morris.

"Appetite is controlled by particular centres within the brain. Other

research in this field* suggests that maternal food preferences during pregnancy can affect the food preferences of offspring.

"As brain control of appetite is likely set early in life, nutrient availability in the fetal or early post-natal period may contribute to adult obesity," says Professor Morris.

The work also highlighted for the first time, different impacts of pre- and postnatal overfeeding on fat accumulation, circulating lipid levels, glucose metabolism, and brain appetite regulators.

In a separate paper, the same UNSW research group found that animals that were slightly undernourished in their early life had a head start on health.

"The less milk the babies had – and the lighter they were – the higher were levels of a hormone which is known to be protective of cardiovascular disease," says Professor Morris.

The research, which is to be published in the *International Journal of Obesity*, also shows that pups that were undernourished remained lighter as adults, while those that were over-fed as babies continued to be fatter as adults.

"We know that undernutrition has an effect on longevity and this research seems to support this," says Professor Morris.

Source: University of New South Wales

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