

Children's body fat linked to Vitamin D insufficiency in mothers

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Children are more likely to have more body fat during childhood if their mother has low levels of Vitamin D during pregnancy, according to scientists at the Medical Research Council Lifecourse Epidemiology Unit (MRC LEU), University of Southampton.

Low [vitamin D](#) status has been linked to obesity in adults and [children](#), but little is known about how variation in a mother's status affects the [body composition](#) of her child.

Low vitamin D status is common among young [women](#) in the UK, and although women are recommended to take an additional 10µg/day of vitamin D in [pregnancy](#), supplementation is currently not routine.

In new research, published in the *American Journal of Clinical Nutrition* today (May 23, 2012), [scientists](#) at the MRC LEU, University of Southampton, have compared the vitamin D status of 977 pregnant women with the body composition of their children. The findings from this study showed that the children who were born to [mothers](#) who had low vitamin D status in pregnancy had more body fat when they were six years old. These differences could not be explained by other factors such as mother's weight gain in pregnancy, or how physically active the children were. The 977 women are part of the Southampton Women's Survey, one of the largest women's surveys in the UK.

Dr Siân Robinson, Principal Research Fellow, at the University, who led the study, says: "In the context of current concerns about low vitamin D status in [young women](#), and increasing rates of childhood obesity in the UK, we need to understand more about the long-term health consequences for children who are born to mothers who have low vitamin D status.

"Although there is growing evidence that vitamin D

status is linked to body fatness in children and adults, this research now suggests that the mother's status in pregnancy could be important too.

"An interpretation of our data is that there could be programmed effects on the fetus arising from a lack of maternal vitamin D that remain with the baby and predispose him or her to gain excess body fat in later childhood. Although further studies are needed, our findings add weight to current concerns about the prevalence of low vitamin D status among women of reproductive age."

This study is part of a wider body of work by the MRC Lifecourse Epidemiology Unit into how factors during pregnancy might have a long-term influence on childhood growth and development.

Professor Cyrus Cooper, Director of the MRC LEU comments: "This is a wonderful example of multi-disciplinary research using the unique clinical and biochemical resource provided by the Southampton Women's Survey. The observations that maternal vitamin D insufficiency might be associated with reduced size at birth, but accelerated gain in [body fat](#) during early childhood, add to the considerable amount of evidence suggesting that vitamin D status during pregnancy may have critical effects on the later health of offspring."

Provided by University of Southampton

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