

# 'Thriving infant' genes increase risk of obesity

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(PhysOrg.com) -- Scientists using data from the University of Bristol's ALSPAC study have discovered a genetic link between obesity and rapid weight gain in babies as young as six weeks old. The research is published in PLoS Medicine.

Scientists at the Medical Research Council (MRC) have discovered a genetic link between obesity and rapid [weight gain](#) in babies as young as six weeks old. The genes, known to cause obesity, also provided babies with greater protection against 'failure to thrive' - a potentially harmful condition of very slow weight gain. This genetic protection in early life could explain why many people are prone to being overweight as adults.

The research conducted by the MRC Epidemiology Unit in Cambridge followed more than 7,000 children from the ALSPAC, the Avon

[Longitudinal Study](#) of Parents and Children (also known as Children of the 90s) study, at the University of Bristol.

The study analysed the weights and heights of children aged 0-11 years. Measurements routinely collected at birth and by health visitors at six weeks, nine months, 1.5 years and 3.5 years old were used, while children between 7 and 11 years old were weighed and measured by the ALSPAC clinics.

Children with just one extra copy of an obesity gene were 17 per cent more likely to be obese in childhood, while their risk of ‘failure to thrive’ was reduced by 8 per cent, compared to those with fewer of the genetic variants. However, children with multiple copies of the genes would be at even greater risk of obesity.

Lead author Cathy Elks from the MRC said: “We know that the ability to put on sufficient weight during the first few weeks of life could have major advantages during this vulnerable period. What we’ve found is that the genes which help infants to thrive and put on weight could be one reason why some people are more prone to obesity later in life.”

Dr Ken Ong, a Paediatric Endocrinologist at the MRC Epidemiology Unit, and co-author of the study said: “Babies and [children](#) who gain weight rapidly during the first year of life are at increased risk of obesity, and while the influence may be genetic, parents should be mindful of this when considering their child’s diet and other environmental factors like exercise, to ensure they’re not placed at even greater risk.

“Adult and childhood obesity are among the biggest public health challenges in the UK today, which is why the MRC funds research like ours to understand why it happens and hopefully prevent it. It’s very interesting to find that genetic factors play a key role, both in helping

infants to thrive and mapping out our likelihood of obesity, and this new information should ultimately take us closer to finding safe, effective ways to predict and prevent obesity.”

The research was in collaboration with the MRC, the University of Bristol, Addenbrooke’s Hospital in Cambridge and the University of Cambridge.

**More information:** The paper, [Genetic markers of adult obesity risk are associated with greater early infancy weight gain and growth](#) is published in *PLoS Medicine* today.

Provided by University of Bristol

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