

Analysis examines genetic obesity susceptibility, association with body size in kids

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A review of medical literature appears to confirm an association between genetic obesity susceptibility and postnatal gains in infant weight and length, as well as showing associations with both fat mass and lean mass in infancy and early childhood.

Identifying indicators and mechanisms in early life related to later life [obesity](#) risk is important for preventive strategies.

The authors conducted a meta-analysis that included 3,031 children from four birth cohort studies in England, France and Spain. Genetic obesity susceptibility was represented by a combined obesity risk-allele (an alternative form of a gene) score that was calculated in each participant as the sum of 16 different alleles associated with higher adult [body](#)-mass index (BMI). Associations between genetic obesity susceptibility and body size or body composition were tested at birth to age 5 years.

The obesity risk-allele score was not associated with infant size at birth but at age 1 year it was associated with weight and length but not with BMI. The associations were stronger at age 2 to 3 years and were also seen for BMI. The allele score was associated with both postnatal fat mass and lean mass but not with the percentage of body fat.

"Our findings suggest that [genetic susceptibility](#) to obesity promotes early gains in both weight and length/height that are apparent before the

positive influence on BMI. This premise is strongly supported by our novel finding of positive associations between the obesity risk-allele score and both [fat mass](#) and lean mass, but not relative body fat, in infancy and [early childhood](#)," Cathy E. Elks, Ph.D., of the Medical Research Council Epidemiology Unit, University of Cambridge, England, and colleagues wrote in their *JAMA Pediatrics* article.

More information: *JAMA Pediatr.* Published online October 20, 2014. [DOI: 10.1001/jamapediatrics.2014.1619](https://doi.org/10.1001/jamapediatrics.2014.1619)

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