

Mothers with higher quality diets have slimmer, leaner babies

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Obesity is a growing problem among toddlers, children and adolescents in the United States. Gaining weight and fat mass rapidly during the first six months of life is one risk factor that can lead to obesity in children.

A University of Minnesota School of Public Health study, recently published in the journal *Nutrients*, examined the role a mother's diet plays in infant growth and body composition. Professor Ellen Demerath and a team of researchers led by postdoctoral fellow Muna Tahir examined diet quality because it is a potentially modifiable factor in obesity prevention.

"A baby who is shooting up through the percentiles in weight-for-length during the first six months is two to three times more likely to become obese as early as adolescence," says Demerath.

For this study, the researchers surveyed 354 exclusively breastfeeding mothers from Demerath's on-going [MILK study](#), which analyzes breast milk composition and its effects on infants. The mothers were asked to detail their [dietary](#)

[intake](#) while pregnant at one and three months after giving birth. Their responses were used to assess the quality of each of the mother's diets. Diet quality scores were based on higher intake of certain food categories, such as whole grains, fruits and vegetables, and lower intake of other food categories, such as added sugars and refined grains.

The babies of the mothers in the survey were measured for their length-for-age, weight-for-age, and weight-for-length at birth, and then again at one, three and six months of age. Their body fat percent, [fat mass](#) and fat-free mass were measured at six months.

The study found:

- mothers who had a higher diet quality at any point had children with lower weight-for-length ratios—meaning they were slimmer—than women who had lower diet quality scores;
- mothers with higher [diet](#) quality had babies with lower body fat percentage and total mass in the first six months;
- the amount of fat-free tissue, which includes bone and muscle, did not differ by maternal [diet quality](#) score.

"This is evidence that breastfeeding mothers with high quality diets may help their babies be slimmer and have lower percent [body fat](#) than those who have lower [quality](#) diets, while also supporting healthy growth in length and lean body mass. This bodes well for their risk of obesity later in life," says Demerath.

Demerath says the next step is to study what is in breast milk that could help babies grow in healthy proportions and body composition. Once that is understood, the information could guide [mothers](#) on what to eat to make the most nutritious breast milk.

More information: Muna Tahir et al. Higher Maternal Diet Quality during Pregnancy and Lactation Is Associated with Lower Infant Weight-For-Length, Body Fat Percent, and Fat Mass in Early Postnatal Life, *Nutrients* (2019). [DOI: 10.3390/nu11030632](https://doi.org/10.3390/nu11030632)

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