

Study links omega fatty acids with infant growth

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By serving both as fuel for cells and as molecular building blocks in their membranes, fatty acids are critical to human functioning and development.

Two of those fatty acids, omega-3 and omega-6, likewise contribute to the development of a fetus. Omega-3 acids, found in oily fish and other seafood, promote brain and eye development while reducing risks of disease. Omega-6 acids, common in [vegetable oils](#), have more mixed effects but are considered essential, too.

Some research also suggests that omega-3s and omega-6s might influence the weight and length of newborns. But no study had closely examined those fatty acids in the plasma of mothers and umbilical cords at the time of birth.

So what?

Husker researcher Sathish Kumar Natarajan and colleagues at the University of Nebraska Medical Center analyzed the plasma of 121 mother-infant pairs for oxylipins: [chemical compounds](#) that result when enzymes break down [fatty acids](#).

Natarajan

The team found an array of oxylipins in plasma during delivery. Of those oxylipins, several resulting from the breakdown of omega-6 were associated with greater newborn length. For every 10 percent increase in the amounts of two such oxylipins, an infant's percentile rank in length increased by 1.3 and 2, respectively. Similarly, a 10 percent increase in a certain omega-3 oxylipin increased that percentile rank by 1.2.

Though the links between oxylipins and birth weight were generally less pronounced, one product of omega-6 breakdown appeared especially noteworthy. When that product was not detectable in plasma, average [birth weight](#) ranked in the 59th percentile; when it was, infant weight rated in the 37th percentile.

Now what?

Continued research is needed to ascertain whether omega-3 and omega-6 oxylipins actually influence infant length and weight. But the team's findings point to the possibility of using oxylipins as biomarkers for those outcomes.

More information: Maranda Thompson et al, Omega-6 and Omega-3 Fatty Acid-Derived Oxylipins from the Lipoxygenase Pathway in Maternal and Umbilical Cord Plasma at Delivery and Their Relationship with Infant Growth, *International Journal of Molecular Sciences* (2022). DOI: [10.3390/ijms23020708](https://doi.org/10.3390/ijms23020708)

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