Medical Xpress

Betaine levels in breastmilk linked to lower obesity levels in babies

April 1 2021, by Bob Yirka

Credit: CC0 Public Domain

A large team of researchers with members from multiple institutions in Spain and the U.S. has found a link between betaine levels in breastmilk and obesity levels of breastfed babies. In their paper published in the

journal *Science Translational Medicine*, the group describes their study of mothers and their breastfed babies and what they learned from them.

Over the past several decades, levels of obesity in many parts of the world have become problematic. In addition to adult obesity, the number of obese children and infants has increased. In this new effort, the researchers wondered if there might be a link between the likelihood of a child developing obesity depending on whether he or she had been breast fed or not. To find out, the researchers joined another study that involved 34 women who were currently breastfeeding their babies. The team studied the breastmilk of each of the mothers, looking for a pattern that might explain why some of the babies went on to become obese while others did not.

The researchers found an amino acid called betaine that is commonly found in whole-grain foods. Women who eat such foods, the researchers discovered, had more of it in their breast milk. They also found that the babies of the women who consumed higher levels of it had a slightly lower risk of developing childhood obesity.

Intrigued by their findings, the researchers carried out some experiments with mice. They gave some of them diets with extra betaine just before they gave birth to a new litter of pups. Testing showed that doing so raised levels of betaine in the breast milk of the mothers. Over time, as the pups grew, they found that those who had been breastfed milk with higher levels of betaine were slightly less likely to become obese when fed a high-fat diet. They noted that the difference persisted into adulthood—those adult mice who had consumed more betaine as newborns weighed on average 10% less than the mice fed less betaine. The researchers noted that the effect was more pronounced in mothers who were obese.

In looking to understand why consuming higher amounts of betaine as

infants would make mice less likely to become obese, they found that mice who consumed breastmilk with high levels of betaine had higher levels of the gut bacteria Akkerrmansia, which has been linked to a lowered obesity risk in humans and other animals.

More information: Silvia Ribo et al. Increasing breast milk betaine modulates Akkermansia abundance in mammalian neonates and improves long-term metabolic health, *Science Translational Medicine* (2021). DOI: 10.1126/scitranslmed.abb0322

© 2021 Science X Network

Citation: Betaine levels in breastmilk linked to lower obesity levels in babies (2021, April 1) retrieved 19 April 2024 from
https://medicalxpress.com/news/2021-04-betaine-breastmilk-linked-obesity-babies.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.