

What's in the breast milk affects microbes in the baby

Our intestines are full of a vast number of microorganisms. These microbes include bacteria and fungi, and interactions between us and the microbes that live inside us have an impact on health and disease in ways that are only now coming to light. Before we're born, exposure to microbes is limited, but starting very quickly after birth the microorganisms with which we come into contact very rapidly start to "set up shop" in a baby's intestine. A number of factors influence what particular microbes a baby gets, including whether they're born naturally or by Caesarian section, whether they receive antibiotics or not, and whether they're fed breast milk or formula. The microbes that end up in the baby may have long-lasting effects including risks of allergies or asthma, the likelihood of developing infections, and may even lead to a higher risk of obesity later in life.

In the article, "Host Defense Proteins in Breast Milk and Neonatal Yeast Colonization" published in the *Journal of Human Lactation*, the authors tested whether differences in the content of breast milk fed to premature infants in a newborn intensive care unit (NICU) might contribute to the likelihood that the baby would have yeast called "*Candida*" in the intestines, mouth, or on their skin. They were interested in *Candida*, because this yeast can cause very serious, life threatening infections in premature infants. Although most babies who have the yeast living on or in them have no problems, it can increase the chance that they will develop this infection. The researchers looked for the yeast every week in 130 babies in the NICU, and they found *Candida* in 28 of them. They also collected samples from their mothers' pumped milk that was ready to be fed to the babies, because they wanted to determine whether there were components of breast milk that were different in babies that had *Candida* than in those that did not. The amount of 2 components, lysozyme and dermcidin, was lower in the breast milk of babies who had *Candida* than those who did not. These two substances are natural components of breast milk that have protective antimicrobial properties.

This study is the first to suggest that normal variations in the amount of naturally occurring components of breast milk can have an impact on whether or not a baby will have this yeast as part of the microbes that live on or in the baby. It raises the question of whether the variations in content of mothers' milk should be something that doctors evaluate to help make sure that babies get the most beneficial microbes and possibly avoid the potentially harmful ones.

Publication

[Host Defense Proteins in Breast Milk and Neonatal Yeast Colonization.](#)

Chow BD, Reardon JL, Perry EO, Laforce-Nesbitt SS, Tucker R, Bliss JM
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