Bacteria and viruses are not inherited equally from mother to child at birth

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Video Byte

Keywords: maternal, fetal, infant, transmission, bacteria, viruses, twins, babies, birth, delivery, discordant, microbiota, gut, vertical transmission, environmental exposure, Washington University in Saint Louis School of Medicine, virome, Microbiome

Posted Date: May 5th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-27203/v1>

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Abstract

The birth of a child involves many big transitions, but one of these changes occurs inside the child, who transitions from the sterile womb to an outside environment full of microbes. While this has lasting effects on growth, inflammation, and immunity, remarkably little is known about how gut bacteria and viruses are acquired by infants. Recently, researchers used next-generation sequencing to evaluate microbes from the guts of 28 pairs of twins and their mothers. They found that the majority of the infant's gut bacteria were similar to their mother's gut bacteria. Viruses were less similar, suggesting they might be transmitted through other routes. Twins also shared more of their gut microbiota with each other, emphasizing the strong effect of environmental exposure, and mode of delivery had very little effect on how much of the infants' gut microbiome was inherited from their mothers. While future studies will expand on these findings to evaluate the role of diet, these results demonstrate that bacteria and viruses are inherited to different extents at birth.