

Breastfeeding promotes the growth of beneficial bacteria in the gut

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A number of studies have shown that breastfed babies grow slightly slower and are slightly slimmer than children who are fed with infant formula. Children who are breastfed also have a slightly lower incidence of obesity, allergies, diabetes and inflammatory bowel disease later in life. According to a new study by the National Food Institute and the University of Copenhagen this may be due to the fact that breastfeeding promotes the development of beneficial bacteria in the baby's gut.

"We have become increasingly aware of how crucially important a healthy gut microbial population is for a well-functioning immune

system. Babies are born without bacteria in the gut, and so it is interesting to identify the influence dietary factors have on gut microbiota development in children's first three years of life," research manager at the National Food Institute Tine Rask Licht says.

Gut microbes change in the first years of life

The study shows that there are significant changes in the intestinal bacterial composition from nine to 18 months following cessation of breastfeeding and other types of food being introduced. However, a child's gut microbiota continues to evolve right up to the age of three, as it becomes increasingly complex and also more stable.

"The results help to support the assumption that the gut microbiota is not - as previously thought - stable from the moment a child is a year old. According to our study important changes continue to occur right up to the age of three. This probably means that there is a 'window' during those early years, in which intestinal bacteria are more susceptible to external factors than what is seen in adults," Tine Rask Licht explains.

Strategies for the development of healthy gut flora

"The results from the study can be used to support initiatives that can be used to help children develop a type of [gut microbiota](#), which is beneficial for the immune system and for the digestive system. This could for example be advice to mothers about breastfeeding or the development of new types of [infant formula](#) to promote the establishment of [beneficial bacteria](#) in the [gut](#)," Tine Rask Licht says.

More information: The study has been described in a scientific article in *Applied and Environmental Microbiology*: Establishment of intestinal microbiota during early life: A longitudinal, explorative study of a large

cohort of Danish infants: www.ncbi.nlm.nih.gov/pubmed/24584251

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