

Breastfeeding Babies for Three Months or More Boosts Their Health as Adults

OVERVIEW

Scientists have long known about the association between the environments we experience as infants and our health as adults. But how are they linked? Chronic inflammation, which can predict the onset of adult diseases like diabetes or heart attacks, is one potential linkage. IPR biological anthropologist **Thomas McDade** sets out to investigate the roles that birth weight and breastfeeding might play, with his co-authors who include IPR faculty **Emma Adam**, a developmental psychobiologist, and **Craig Garfield**, a pediatrician.

FINDINGS

Babies who weighed 6.1 pounds (2.8 kg) or more at birth had lower levels of chronic disease-causing inflammation as adults. McDade and his co-authors measured C-reactive protein (CRP), a key biomarker of inflammation, in nearly 7,000 study participants when they were 24–32 years old. Among them, those who weighed an extra 2.2 pounds (1 kg) at birth saw a nearly 10% drop in their levels of chronic inflammation as adults, from 2.6 mg/L to 2.36 mg/L.

Participants breastfed for three months showed at least a 20% drop in CRP levels as adults, and those



IPR biological anthropologist **Thomas McDade** studies how social, economic, and cultural contexts at the population level shape human biology and health over the course of a lifetime.

breastfed for six months or longer showed a 30% drop. Lower CRP levels indicate a lower chronic disease risk. But only 45% of children in the study were breastfed. Rates were lowest for Black (13%), Latinx (11%), Asian (2.5%), and Native American (<1%) participants, and highest for Whites (72%).

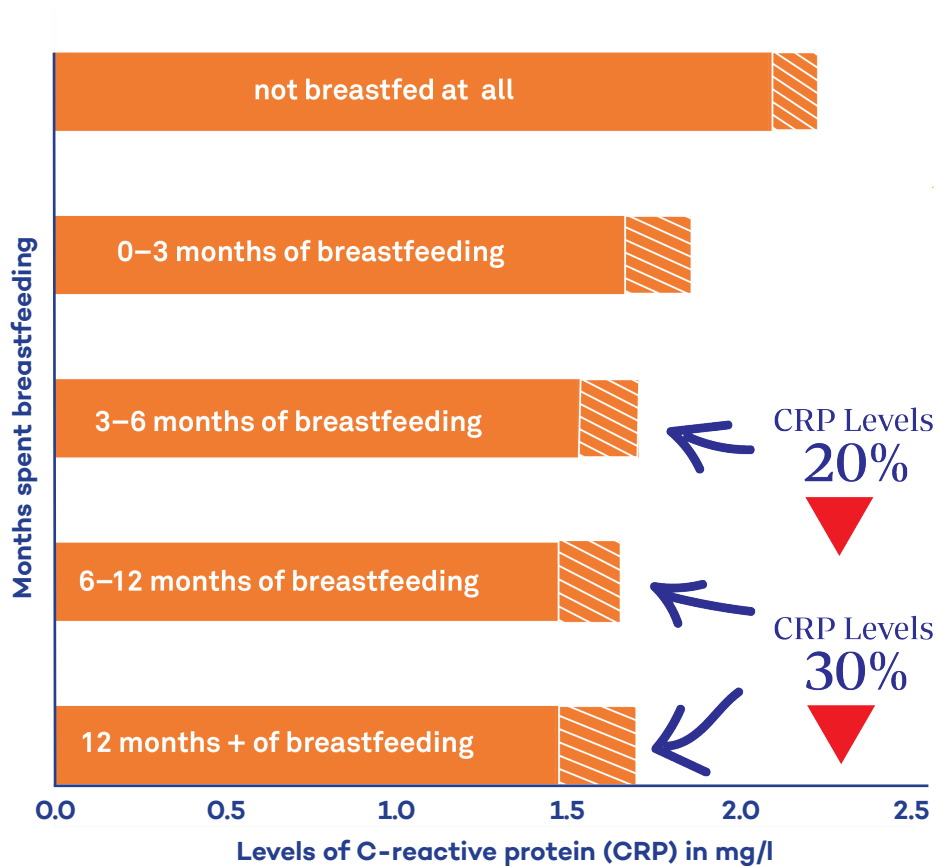
Inflammation (CRP) levels are higher in communities where poverty is higher. This implies a higher risk for chronic adult diseases like diabetes and heart disease, though it is difficult to disentangle inflammation from other causes of poor health.

The research indicates that encouraging new mothers to breastfeed could reduce chronic inflammation (CRP) in adults by as much as—or more than—prescribing statin therapy to lower cholesterol. Current U.S. and U.K. guidelines advise mothers to breastfeed exclusively until their infants are six months old and continue until their first birthday. But only 13% of mothers in the sample were able to do so. The proportion is even lower for Black mothers, as well as mothers with only a high school education or who dropped out of high school. These results suggest that providing new mothers with robust paid family leave, as well as breastfeeding counseling and support groups after giving birth will lower healthcare costs and improve public health.

POLICY TAKEAWAYS

- Early-life environments can affect a child's lifelong health.
- Breastfeeding for three months or more is linked to lower levels of chronic inflammation—a key driver of serious health issues.
- Promoting breastfeeding to new mothers, especially those who live in disadvantaged communities, leads to better long-term health for their children.
- The research suggests that policies like paid family leave and supporting breastfeeding for new mothers would yield large benefits.

Being Breastfed for 3 Months or More Lowers Inflammation and Disease in Adults



Breastfeeding a child for three months reduces CRP levels by at least 20%—reaching 30% for those breastfed six months or more—which decreases the likelihood of health problems like type 2 diabetes, disabilities, and heart disease in adulthood.

Lined areas indicate 95% confidence levels.

METHODOLOGY

McDade and the research team used a decade's worth of representative data from the U.S. National Longitudinal Study of Adolescent Health on nearly 7,000 participants. Baseline interviews provided them with birth weights and breastfeeding durations. They later collected biomarker data on CRP, using finger-stick, dried-blood-spot samples, which produce results comparable to the gold-standard of clinical blood draws. The researchers deployed a step-wise series of models to isolate the independent associations of birth weight and breastfeeding with CRP in young adulthood. Then they repeated the models using sibling fixed-effects regression for all full biological siblings in the dataset, or 346 sibling groups.

REFERENCE

McDade, T., M. Metzger, L. Chyu, G. Duncan, C. Garfield, and E. Adam. 2014. [Long-term effects of birth weight and breastfeeding duration on inflammation in early adulthood](#). *Proceedings of the Royal Society B*.

FACTS AND FIGURES

- Babies born at weights above 6.1 pounds (2.8 kg) have lower levels of CRP, a protein associated with inflammation risk.
- Being breastfed for three months or longer is associated with at least a 20% reduction in CRP levels as an adult, and this reaches 30% for those breastfed six months or longer.
- The results suggest that breastfeeding could have as large an effect as that associated with statin therapy for adults, which can reduce CRP levels by 15–17%.



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