

Researchers identify factors associated with lower breastfeeding duration for mothers with higher BMIs

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A multi-nation cohort analysis found that inflammation and cesarean section delivery in mothers with higher body mass index are connected to shorter duration of breastfeeding, providing potential targets for

intervention.

Breastfeeding has significant benefits for both maternal and [child health](#). Research has indicated that women with higher body mass index (BMI) have shorter durations of breastfeeding, but few underlying mechanisms have been identified. To address this gap, a new study led by investigators from Brigham and Women's Hospital, a founding member of the Mass General Brigham healthcare system, and collaborators from Boston Children's Hospital, Icahn School of Medicine at Mount Sinai, and elsewhere, investigated the factors that may link higher maternal BMI with shorter breastfeeding duration. Their results, which are published in *The American Journal of Clinical Nutrition*, suggest potential strategies to help people who may be at risk for breastfeeding difficulties.

"Our study identifies modifiable factors that are associated with longer duration of lactation in people with high BMI, including dietary and systemic inflammation," said senior author Sarbattama (Rimi) Sen, MD, a neonatologist in the Department of Pediatrics at Brigham and Women's Hospital. "By exploring factors that could be connecting higher maternal BMI to lower breastfeeding outcomes, we are paving the way for clinical trials to test evidence-informed approaches to support breastfeeding."

Breastfeeding has been shown to provide [health benefits](#) for both the mother and the child, including improving maternal metabolic health, decreasing rates of maternal malignancies, decreasing childhood obesity risk, and supporting child neurodevelopment. Understanding the links between maternal BMI and breastfeeding could identify new strategies for helping individuals reach their lactation goals.

The researchers analyzed data, including maternal and infant characteristics, dietary patterns, and an inflammatory biomarker, collected from over 5,000 women from three different international

cohorts from Spain, Greece, and the United States, supporting generalizability of the findings given cultural patterning of diet and breastfeeding.

The team reported that higher pre-pregnancy maternal BMI was indeed associated with lower breastfeeding duration across all three cohorts. They also identified three factors that partly explain this association: maternal inflammatory marker C-reactive protein, maternal dietary inflammation, and cesarean delivery. Gestational diabetes mellitus (GDM) was not found to be a significant explanatory factor underlying this association, which was surprising to study authors but could be explained by the relatively small number of birthing parents with GDM in these cohorts.

The study provides insights into several potential targets for improving [breastfeeding](#) duration among people with overweight and obesity that can now be tested in clinical trials. These targets include reducing dietary and systemic inflammation. The findings may also inform clinical trials and providers who are caring for patients who have recently given birth.

"Breastfeeding has dose-dependent lifelong benefits for both parent and child," said Sen. "Research such as this helps identify pathways for interventions that can support population health outcomes and equity."

More information: Madeline Keyes et al, Mediators of the association between maternal body mass index and breastfeeding duration in 3 international cohorts, *The American Journal of Clinical Nutrition* (2023). [DOI: 10.1016/j.ajcnut.2023.04.004](https://doi.org/10.1016/j.ajcnut.2023.04.004)

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