High-fat diet in pregnancy may impact baby's gut, immune system

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Women consuming high-fat diet during pregnancy may increase the risk of affecting bacteria living in her baby's gut thus impacting proper development of the immune system, says a study.   
  
The results showed that expecting mothers' diets can lead to distinct changes in their babies' microbiome, which could affect energy extraction from food as well as early immunity development.   
  
"Diet is very amenable to change and women are highly motivated to make healthy changes during pregnancy. Traditionally, dietary interventions during pregnancy have focused on micronutrients, such as iron and folic acid," said Kjersti Aagaard, Associate Professor at Baylor College of Medicine in the US.

Further, a high-fat diet in the mothers was also significantly associated with fewer numbers of bacteroides microbes in the infants' microbiome both in samples taken shortly after birth and at four to six weeks of age.   
  
Bacteroides are involved in breaking down and extracting energy from certain carbohydrates. As a consequence of depletion of bacteroides, these carbohydrates could become unusable to the infant or other microbes.   
  
A persistent reduction of bacteroides species in the infant gut could thus have significant consequences on energy extraction from food and developing immunity, the researchers said.   
  
"The study speculates that there may be a sound argument to also discuss and estimate fat intake," Aagaard added, suggesting an increase in the need for dietary recommendations during pregnancy.   
  
For the study, examined stool samples from 157 newborn babies that were taken 24 to 48 hours post-delivery, a subset of 75 babies was further sampled at four to six weeks of age.   
  
The researchers found that the mothers' dietary intake of calories from fat per day ranged from 14.0 per cent to 55.2 per cent. The average daily intake of calories from fat was 33.1 per cent.   
  
The results were published in the open access journal Genome Medicine.

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