

# Diabetes drug may protect breastfed children from future metabolic disorder

May 7 2020

---



Metformin 500mg tablets. Credit: public domain

A new study suggests that treating a breastfeeding parent with a common diabetes drug may provide male offspring lifelong protection against diabetes and obesity. The study is published ahead of print in the *American Journal of Physiology-Endocrinology and Metabolism*. It was chosen as an APSselect article for May.

Studies have shown that maternal stress during pregnancy can increase the risk of type 2 diabetes in offspring. Overnutrition—excess consumption of food that may not be nutritionally balanced—in the mother may also increase a child's health risks during the lactational period after birth, as research suggests that a baby's weight gain during the early weeks of life has been associated with a higher incidence of obesity.

In some countries, metformin—a medication commonly used to treat type 2 diabetes—is prescribed during pregnancy to people who are at risk of having lactation problems. The drug was also studied for its ability to improve production of milk, but infant outcomes were not studied beyond the first month of life. In a new study, researchers wanted to learn if metformin exposure may be able to improve long-term metabolic health for infants at risk for [diabetes](#).

Researchers from the University of Michigan and the University of Miami studied the offspring of mice treated with metformin immediately after giving birth and through the lactational period and compared them with the offspring of an untreated control group. All metformin exposure stopped at weaning. After exposure ceased, from infancy through adulthood, mice had improved glucose tolerance and in males, less abdominal fat. Females born to metformin-treated mothers also had better glucose tolerance, but body changes such as a decrease in fat tissue did not occur until adulthood. Exposure to the drug protected offspring of both sexes from diet-induced metabolic disorders in adulthood.

The cause of these changes is still unclear. "Future studies will focus on understanding how metformin causes these changes, whether indirectly through changes in milk composition, through changes in the colonization of the infant intestinal microbiome or through direct action on the offspring intestine or liver," the research team wrote.

"Lactational [metformin](#) exposure programs [offspring](#) white adipose tissue glucose homeostasis and resilience to metabolic stress in a sex-dependent manner" is published in the *American Journal of Physiology-Endocrinology and Metabolism*.

**More information:** Zach Carlson et al. Lactational metformin exposure programs offspring white adipose tissue glucose homeostasis and resilience to metabolic stress in a sex-dependent manner, *American Journal of Physiology-Endocrinology and Metabolism* (2020). [DOI: 10.1152/ajpendo.00473.2019](#)

Provided by American Physiological Society

Citation: Diabetes drug may protect breastfed children from future metabolic disorder (2020, May 7) retrieved 5 May 2024 from <https://medicalxpress.com/news/2020-05-diabetes-drug-breastfed-children-future.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--