

Effects of a poor diet during pregnancy may be reversed in female adolescent offspring

February 24 2017



Credit: martha sexton/public domain

Here's some good news if you are female: Research published online in *The FASEB Journal*, shows that in mice, what is eaten during

adolescence or childhood development may alter long-term behavior and learning, and can even "rescue" females from the negative effects on behavior resulting from a poor maternal diet during pregnancy.

"These are provocative findings," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*. "So many effects during pregnancy have been touted as irreversible—perhaps not always so. "

In their study Reyes and colleagues used four groups of female mice. The first group was fed a control diet during pregnancy and lactation. The second group was fed a high-fat diet during pregnancy and lactation. The third was also fed a nutrient-enriched diet during [early life](#).

The fourth group included offspring from the mice fed a [high-fat diet](#) that were fed the nutrient-enriched diet during early life. When all mice were adults, they were fed the same [control diet](#) for the remainder of their lives.

Researchers then used operant behavior chambers (chambers in which a mouse must nose-poke into a hole to get a reward) to examine learning and motivation. They found that the female offspring who were fed the nutrient-enriched diet during early life learned faster and were more motivated to obtain the sugar reward.

Furthermore, the nutrient supplementation also reversed some of the deficits observed due to high-fat feeding during pregnancy.

More information: Sarah E. McKee et al, Methyl donor supplementation alters cognitive performance and motivation in female offspring from high-fat diet-fed dams, *The FASEB Journal* (2017). [DOI: 10.1096/fj.201601172R](https://doi.org/10.1096/fj.201601172R)

Provided by Federation of American Societies for Experimental Biology

Citation: Effects of a poor diet during pregnancy may be reversed in female adolescent offspring (2017, February 24) retrieved 5 February 2024 from

<https://medicalxpress.com/news/2017-02-effects-poor-diet-pregnancy-reversed.html>

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.