

# High-fat, high-sugar diet may impair future fertility in females

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The differences in the way males and females respond to a high-fat, high-sugar diet may include impairment of female fertility, new research suggests. The findings will be presented today at the American Physiological Society's (APS) Cardiovascular, Renal and Metabolic Diseases: Sex-Specific Implications for Physiology conference in Knoxville, Tenn.

Researchers studied two weight-matched groups of [female rats](#). One group was given free access to a high-fat, high-sugar ("HFHS") diet, and the other group was offered unlimited amounts of standard rodent food ("control"). After three weeks on the specified diets, the HFHS rats had a higher percentage of body fat (adipose tissue) but did not weigh more than the control animals. The HFHS rats had higher blood sugar levels, but glucose tolerance—the ability to process sugar—was similar to that of the controls. This is in contrast to previous studies that have found that an HFHS diet increases [glucose intolerance](#) in male rats. Glucose intolerance is a symptom of metabolic disease and often leads to diabetes. No change in the females indicates a possible sex-specific difference in response to an HFHS diet.

The HFHS rats carried most of their accumulated fat around the uterus (periuterine), which may be of major importance to their ability to reproduce, explained the research team. "Diet-induced [structural] changes in periuterine adipose tissue may affect reproductive capacity (i.e., fertility) and pregnancy outcomes in females with preconceptional obesity," the researchers wrote.

**More information:** Hijab Ahmed, MS, of the University of North Texas Health Science Center department of physiology and anatomy, will present "Female rats offered free access to lard, sucrose and chow developed features of metabolic syndrome and periuterine adipose tissue expansion" in a poster session on Tuesday, October 2, at the Crowne Plaza Knoxville.

[www.the-aps.org/mm/Conferences ... onferences/SexGender](http://www.the-aps.org/mm/Conferences...onferences/SexGender)

Provided by American Physiological Society

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