

Importance of breastfeeding in preventing diabetes reaffirmed in rat study

December 12 2019



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New research published today in the *Journal of Physiology* shows that breastfeeding is crucial in preventing diabetes.

The World Health Organization recommends breastfeeding as the sole source of nutrition for infants until six months of age, as this helps reduce child morbidity and mortality. In contrast, early weaning is

associated with both the development of obesity and Type 2 diabetes in adulthood.

Researchers at Rio de Janeiro State University, led by Patricia Lisboa, showed that weaning rat pups early increased [insulin secretion](#) in adolescent male pups and in both genders as adults.

By adolescence in male pups, the scientists mean an age in pups that is considered equivalent to adolescence in humans. In rats, adolescence is defined as ranging from age 35 to 55 days.

This increased [insulin](#) secretion is indicative of developing [insulin resistance](#), which means a reduced responsiveness to insulin. To try to compensate for this reduced responsiveness of the body, it secretes more insulin. This is one sign of diabetes, a disease characterised by high blood sugar levels. Blood sugar levels are normally regulated by insulin, so high blood sugar levels mean the body creates more insulin to try to regulate this.

The result of increased insulin secretion indicates that adolescent pups might be more susceptible to Type 2 diabetes, as will all the offspring in adulthood.

Patricia Lisboa, one of the authors on the study said:

"There are many causes of Type 2 diabetes, but not breastfeeding for long enough, is one we can guard against. Understanding the increased susceptibility to Type 2 [diabetes](#) as a result of early weaning will help us develop the best public health guidance."

More information: Carla Bruna Pietrobon et al, Early weaning induces short- and long-term effects on pancreatic islets in wistar rats of both sexes, *The Journal of Physiology* (2019). [DOI: 10.1113/JP278833](https://doi.org/10.1113/JP278833)

Provided by The Physiological Society

Citation: Importance of breastfeeding in preventing diabetes reaffirmed in rat study (2019, December 12) retrieved 3 April 2023 from <https://medicalxpress.com/news/2019-12-importance-breastfeeding-diabetes-reaffirmed-rat.html>

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