

# Stress early in life can increase the risk of overweight in adulthood

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There are indications that unborn children who are exposed to severe stress levels, have an increased risk of becoming overweight or developing obesity as adults.

This is shown by a new registry study from Aarhus University published in *PloS ONE*.

The researchers have previously shown that severe stress experienced by pregnant women can lead to weight problems for children between 10 and 13 years; however, a correlation between the mother's level of stress during pregnancy and the risk of developing overweight or [obesity](#) as an adult is new:

"Overall our results indicate that stress can create a programming of the unborn child that makes it susceptible to putting on weight after birth," says PhD Lena Hohwü from the Department of Public Health at Aarhus University.

"So even though we still have a lot of research to do in this area, we have added a little piece to our understanding of why we are experiencing an [obesity epidemic](#), in which one in five children in Denmark are overweight – and where most of them will remain overweight as adults."

## Double the risk

The study is based on data from 119,908 [young men](#) who were

summoned to the Danish conscription examination between 2006-2011, during which their [body mass index](#) or BMI was measured.

The researchers have focused on women who experienced the death of a close relative just before or during the pregnancy. They have subsequently followed the women's male children until early adulthood. Young men whose mothers had been exposed to bereavement had – depending on the relation of the relative to the mother – different degrees of increased risk of overweight and obesity. If the woman had lost her husband, her son had twice the risk of developing [overweight](#) in adulthood.

"We have specifically investigated the stress factor that occurs when the child's mother loses a close relative just before or during pregnancy, that is, before the child is born. We have designated this as 'an indicator of severe stress' that can double the risk of developing obesity in adulthood," says Lena Hohwü.

"But as this type of stress is fortunately rare, we are currently investigating whether there is a more general effect of stress. We are therefore looking at the significance of divorce and the [stress hormone cortisol](#) during pregnancy."

Provided by Aarhus University

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