

Higher incidence of morbidity in obese children in Sweden than in Germany

July 16 2013

(Medical Xpress)—More than one in six children in Sweden who are obese also have pre-diabetes. This has been demonstrated in a large study of more than 35,000 children from Sweden and Germany conducted at Karolinska Institutet and published in the scientific journal *International Journal of Obesity*. The study, which is based on a collaboration between the national childhood obesity registry in Sweden, BORIS, and its German counterpart APV, reveals that the incidence of pre-diabetes is three times higher in children in Sweden than in Germany.

Elevated fasting blood glucose is a pre-diabetic condition in adults. And, in adults, elevated fasting blood glucose is associated with cardiovascular disease, cancer and general mortality. The risks associated with elevated fasting blood glucose in children are very poorly mapped. This recently published study demonstrates that the risk for elevated fasting blood glucose is high among obese children in Sweden. More than one in six obese children had elevated fasting blood glucose levels. This risk increases with age, but is nonetheless relatively common in children younger than 10.

"Although only a small number of obese children are diagnosed with [type 2 diabetes](#), we can see that in Sweden obesity results in a [metabolic disorder](#) even in small children", comments Emilia Hagman, Doctoral Student in the Department of Clinical Science, Intervention and Technology at the Karolinska Institute, who conducted the study together with Professor Claude Marcus and German researchers Thomas Reinehr

and Reinhard Holl.

The risk for elevated fasting blood [glucose levels](#) is affected not only by age but also by the degree of obesity, and gender. Elevated fasting blood glucose is slightly more common among boys. However, the levels also appear to be affected by where you live.

"Our results reveal that 17.1 percent of obese children in Sweden have elevated fasting [blood glucose levels](#), whereas in Germany the percentage of obese children with elevated blood glucose was 5.7 percent", says Emilia Hagman. "This means children in Sweden are affected to a far greater degree than children in Germany, and have a 3-fold increase in the risk for elevated fasting blood glucose. We can only speculate about the reason for this, but one possible cause could be differences in early nutrition, a factor that we will investigate further."

The current study included more than 35,000 obese children and adolescents aged between two and 18 taken from the registries of childhood obesity in Germany and Sweden. About 3,000 children taken from the Swedish national quality registry BORIS (BarnObesitasRegister i Sverige) were included in the study. The patients from Sweden and Germany are of the same age and have about the same degree of obesity; the large differences are therefore not due to differences in known risk factors for elevated fasting blood glucose.

"It is worrying that in Sweden so many [obese children](#) also have elevated fasting [blood glucose](#)", says Claude Marcus. "This can affect their future health and quality of life and result in a high burden on the healthcare services. It is important that we try to understand why it is so much more common in Sweden than Germany so that we can prevent this type of metabolic disorder. But, these results also demonstrate how important it is to be even more active in treating [childhood obesity](#) at an early age."

More information: Emilia Hagman, Thomas Reinehr, Jan Kowalski, Anders Ekblom, Claude Marcus, Reinhard W Holl, Impaired fasting glucose prevalence on two nationwide cohorts of obese children and adolescents, *International Journal of Obesity*, online 5 July 2013, doi: [doi: 10.1038/ijo.2013.124](https://doi.org/10.1038/ijo.2013.124)

Provided by Karolinska Institutet

Citation: Higher incidence of morbidity in obese children in Sweden than in Germany (2013, July 16) retrieved 12 May 2024 from <https://medicalxpress.com/news/2013-07-higher-incidence-morbidity-obese-children.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.