Firstborn women more likely to be overweight or obese: study

Firstborn women are more likely to be overweight or obese than their second-born sisters, according to the largest study of its kind in women.

The study led by New Zealand’s Liggins Institute, in collaboration with Swedish scientists, is published online today in the *Journal of Epidemiology & Community Health*.

“We found that firstborns were nearly 30 per cent more likely to be overweight, and 40 per cent more likely to be obese than their second-born sisters,” says the senior investigator, Professor Wayne Cutfield of the Liggins Institute at the University of Auckland.

He says the study of 13,406 pairs of adult Swedish sisters backs up the findings of three earlier studies by his team – in firstborn adult men and in children of both sexes.

“Collectively, these studies show that both men and women who are born first are at greater risk of being overweight or obese,” Professor Cutfield says.

The earlier studies also looked at firstborn children and firstborn men in more detail, and found they were more insulin resistant, and the children had higher blood pressures. Insulin resistance is a risk-factor for type 2 diabetes, while higher blood pressure is a risk factor for hypertension.

Professor Cutfield says that firstborns should not treat the findings as a prediction that they will become obese, diabetic or hypertensive.

“The differences of about 20 to 25 per cent in obesity and insulin sensitivity between firstborns and those born later are not large enough to be a major determining factor. What this information about health risks does is to empower firstborns so they can make positive choices about diet and exercise,” he says.

Researchers have yet to find the reason for the differences between firstborns and those born later, but Professor Cutfield proposes that it is due to differences in the blood supply to the placenta.
“In a first pregnancy, the blood vessels to the placenta are narrower. This reduces the nutrient supply, thus reprogramming the regulation of fat and glucose, so that in later life the firstborn is at risk of storing more fat and having insulin that works less effectively,” he says.

Professor Cutfield says the findings may add to our understanding of the obesity epidemic.

“The steady decrease in family size over the last century has created a higher proportion of firstborns. That may be a contributing factor to the steady increase we are seeing in the adult body mass index or BMI around the globe.”

The researchers drew on data from the Swedish Birth Register, which holds information on virtually all births in Sweden, dating back to the mother’s first antenatal visit.

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