

Prenatal growth could play key role in South Asians' predisposition to non-communicable diseases

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A new study in mothers and children of Pakistani origin suggests non-communicable diseases such as cardiovascular disease and Type 2 Diabetes could be programmed prior to birth.

South Asians show some of the highest rates of [cardiovascular disease](#) in the world which, according to a Loughborough University study, may be traced back to a marked reduction in the [prenatal growth](#) of the abdominal circumference, specifically during the third trimester.

Abdominal circumference is thought to represent critical organs such as

the kidneys and liver which have key roles in the programming of disease. These latest findings may show that, in Pakistani foetuses, programming of non-communicable diseases begins prenatally.

The study, published in the *Annals of Human Biology* this month, analysed more than 5,000 foetuses from the Born in Bradford study - one of the biggest and most important medical research studies undertaken in the UK. Researchers compared body measurements to identify differences between White British and Pakistani foetuses to help explain why South Asians appear to be more prone to cardiovascular disease.

Researchers found that although there was no difference in prenatal growth between the groups in terms of weight and head size, Pakistani foetuses displayed a marked reduction in growth of the abdominal circumference.

Lead researcher Tom Norris, part of Loughborough University's Centre for Global Health and Human Development, explained:

"It is widely believed that exposures in early life are critical to the development of many of the non-communicable diseases observed in adulthood, but much of the research so far has focused on the infant period and birth weight.

"We wanted to look at even earlier development to start to understand what happens prior to birth, and whether non-communicable diseases might be pre-programmed before we are even born.

"The marked difference we discovered in prenatal abdominal circumference growth - and the established links to the organs important in the programming of disease, may explain why South Asians are more at risk of cardiovascular disease."

More information: [informahealthcare.com/doi/abs/...
03014460.2014.882412](https://informahealthcare.com/doi/abs/10.1002/1471-2575.2014.882412)

Provided by Loughborough University

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