

UK Biobank study shows dad's influence on birth weight linked to diabetes genes

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One of the first studies to use recently released data from the UK Biobank has provided the strongest evidence yet for a link between fathers' diabetes and low birth weight. The research shows that your dad can influence your size at birth and that diabetes genes may explain some of this effect.

The study is unprecedented in its size, using 250,000 adults from the UK, in a resource which will help scientists analyse large data sets to answer questions on human health.

Published in the *International Journal of Epidemiology*, the findings show that people of below average [birth weight](#) are more likely to have a father with late onset [diabetes](#) (most likely [type 2 diabetes](#)).

The study has been conducted by researchers at the University of Exeter Medical School. The team are one of the first groups to use data from the UK Biobank, a huge repository of health information from people aged between 40 and 70 years old.

Co-lead researcher on the study, Dr Jessica Tyrrell, said: "Using such a large amount of data has allowed us to be very confident in our conclusions. The finding that parent and offspring diabetes could be genetically linked has important implications for current treatments which aim to increase birth weight to help prevent the onset of the disease, suggesting they may be ineffective."

Birth weight is an important factor for new-born babies, with smaller infants having a higher risk of developing a number of conditions later in life, including cardiovascular disease, [high blood pressure](#) and type 2 diabetes.

The relationship uncovered by this research is likely to be caused by genetic variations passed from father to child which influence both low birth weight and increased risk of type 2 diabetes.

The study marks an important advancement in our understanding of the causes and implications of [low birth weight](#). However, the analysis has also shown that babies born to mothers with diabetes were more likely to be heavier at birth, demonstrating a complex relationship between diabetes and birth weight.

Co-author Professor Tim Frayling stressed: "This study really shows the power of the UK Biobank. It is really important that scientists are able to analyse very large numbers of people to get to the true causes of disease. We can waste huge amounts of time following up false leads, but the size of UK Biobank means that we can be far more certain that our result is real. The UK Biobank will be a hugely valuable resource for UK and scientists worldwide."

Professor Rory Collins, Chief Executive of UK Biobank, said: "I am delighted that the UK Biobank resource is already helping scientists in their research. We are grateful to all the volunteers who have given up their time to provide the detailed health data to make this sort of research possible."

Provided by University of Exeter

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