

Ethnic differences in precursors of type 2 diabetes apparent at an early age

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A study published in *PLoS Medicine* this week finds that precursors of higher risk of diabetes in South Asian and African-Caribbean adults in the UK are increased in healthy children from these ethnic groups.

Peter Whincup of St George's, University of London, and colleagues investigated whether ethnic differences in [type 2 diabetes](#) precursors could also be seen in 9 and 10 year old children in the United Kingdom. South Asian adults in the UK have approximately three times the risk of acquiring type 2 diabetes compared with the white European UK population, while people of African-Caribbean origin in the UK have roughly a two-fold greater risk. Levels of precursors of [diabetes risk](#) (particularly markers of blood glucose and insulin levels) in children mirror the disparities in adult diabetes risk.

The researchers enrolled nearly 5,000 9 or 10 year-old children from schools in London, Leicester and Birmingham. Measuring and weighing the children they determined their body fat levels, taking blood samples to measure known precursors of diabetes including blood glucose levels, fasting insulin, and blood triglyceride, C-reactive protein, and HDL-cholesterol levels. Each child's parents (or guardians) were asked to categorise the child's ethnicity, using a classification similar to the UK census method. The researchers observed that the ethnic differences in patterns of diabetes precursors in these healthy children matched those in the adult population. Although the findings need to be confirmed in other population samples, the researchers suggest that the ethnic differences in type 2 diabetes risk initially observed in immigrants to the UK persist in UK-born South Asian and African-Caribbean communities.

The researchers warn that these findings are particularly important in the light of the growing worldwide problem of type 2 diabetes. They suggest that at least some of the causes of ethnic

differences in type 2 diabetes risk are operating before adult life and that there may be important opportunities for early prevention of type 2 diabetes. Many key measures to prevent diabetes - encouraging physical activity, improving nutrition and diet, and preventing obesity - are desirable for all children. However, further research is needed to identify the factors responsible for the early emergence of ethnic differences in diabetes risk, and to establish the best approaches to early prevention of type 2 [diabetes](#) in ethnic groups at particularly high risk.

More information: Whincup PH, Nightingale CM, Owen CG, Rudnicka AR, Gibb I, et al. (2010) Early Emergence of Ethnic Differences in Type 2 Diabetes Precursors in the UK: The Child Heart and Health Study in England (CHASE Study). *PLoS Med* 7(4): e1000263.

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