

Research indicates obesity and diabetes risk is determined in the womb

November 10 2011

New research from Warwick Medical School indicates some of your risk of developing obesity, diabetes and heart conditions is pre-determined whilst in the womb and by improving the pregnant mother's diet and vitamins intake you can shape your baby's future metabolism for the better.

Revealing the findings at Warwick Medical School's International Symposium on Human Metabolism Research (10 & 11 November), Dr Ponnusamy Saravanan, Associate Clinical Professor in [Diabetes](#), Endocrine & Metabolism at the University of Warwick, explained:

“We are, without doubt, facing an [obesity](#) epidemic in this country. With each generation we are becoming more overweight and developing more cases of associated conditions such as diabetes and heart disease.

“This research, done in collaboration with the University of Southampton and the Kind Edward Memorial Hospital, in Pune, India, examines pregnant women and follows the growth and development of their babies. We have found that mothers with low vitamin B12 gave birth to babies with features suggestive of them developing diabetes and cardiovascular diseases soon after birth and at 6 years.

“We believe that the micro-nutrients (vitamins) in a woman's diet fundamentally influence how the DNA functions, and this gene-diet interaction determines, at least in part, whether you are going to be more prone to being overweight as an adult. So this very early ‘in-utero’ stage

can be critical in mapping out your adult health. Warwick’s research on the functions of fat cells (adipocytes), indeed shows such imbalance of micronutrients fundamentally affects how energy is handled by these cells.”

Dr Saravanan concluded: “Our research is still ongoing, with a further phase beginning early next year, but all the indications show that we need to establish more ‘primordial prevention’ which means taking preventive action before these conditions develop, to improve our nation’s future health and reduce the cost of treatment for the NHS.”

The International Symposium for Advances in Human Metabolism Research is being held at the University of Warwick on 10 and 11 November. Hosted by the University’s Professor Sudhesh Kumar, expert speakers in metabolism from around the world including Boston, Denmark, Sweden and Singapore, have been invited to debate the challenges we face in tackling obesity and will showcase the new £1.9m [Human Metabolism](#) Research Unit (HMRU) based at University Hospital in Coventry.

The HMRU will enhance Warwick’s ability and capacity to conduct world-class research into metabolism and the conditions associated with obesity.

Provided by University of Warwick

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