

Birth weight and poor childhood growth linked to hearing and vision problems in middle age

October 6 2015

A study of up to 433,390 UK adults, led by The University of Manchester, has linked being under and overweight at birth with poorer hearing, vision and cognition in middle age.

Researchers in Manchester, Nottingham, Cincinnati and Madison, Wisconsin analysed data from up to 433,390 UK adults from the UK Biobank study. Associations with birth weight – an index of [prenatal growth](#) – were complex. Larger babies falling within the 10th and 90th percentile of weight had better hearing, [vision](#) and cognition in [adulthood](#).

But very small and very large babies had the poorest hearing, vision and [cognitive](#) function. Better growth during childhood (as indexed by adult height) was associated with better hearing, vision and cognition in adulthood.

Dr Piers Dawes, a lecturer in audiology at The University of Manchester's School of Psychological Sciences led the study. He said: "Sensory problems and illness such as dementia are an increasing problem but these findings suggest that issues begin to develop right from early life.

"While interventions in adulthood may only have a small effect, concentrating on making small improvements to birth size and child

development could have a much greater impact on numbers of people with hearing, vision and [cognitive impairment](#)."

The data was taken from the UK Biobank study which contains detailed information on UK adults aged between 40-69 years in 2006-2010 from across the country. The researchers used statistical techniques to correct for other sources of impairment such as smoking, economic deprivation and other existing health decisions.

As a result they suggest in the research paper that under-nutrition may impact on development of the brain and sensory systems. Alternatively, growth hormones and changes in genetic regulation may be affected by experiences early in life and impact on neurosensory development.

The paper, 'The Effect of Prenatal and Childhood Development on Hearing, Vision and Cognition in Adulthood' was published in the journal *PLOS One*. The study was facilitated by Manchester Biomedical Research Centre.

More information: "The Effect of Prenatal and Childhood Development on Hearing, Vision and Cognition in Adulthood." *PLOS One* [DOI: 10.1371/journal.pone.0136590](https://doi.org/10.1371/journal.pone.0136590)

Provided by University of Manchester

Citation: Birth weight and poor childhood growth linked to hearing and vision problems in middle age (2015, October 6) retrieved 6 May 2024 from <https://medicalxpress.com/news/2015-10-birth-weight-poor-childhood-growth.html>

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