

Associations between fetal growth and self-perceived health throughout adulthood: a co-twin control study

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The literature shows evidence for long-lasting effects of low birth weight (LBW) on many health outcomes; however, little is known about effects on self-perceived health. Findings are mixed and studies are small, mostly focusing on LBW effects on health outcomes before adulthood. Further, most health conditions including self-rated health as well as LBW are partly heritable, suggesting that associations between birth weight and adverse health outcomes may also be due to shared genetic as well as other (pre- and postnatal) unmeasured environmental influences. Here we explored LBW effects on self-perceived health in early and later adulthood using a very large and genetically informative sample of more than 50,000 Swedish twins. In addition, analyses within twin pairs (the co-twin control design) were used to examine potential associations between birth weight and the offspring's risk for poor self-perceived health independent of shared environmental or genetic factors, evidence which is critical for the understanding of underlying mechanisms. Results showed that LBW individuals had somewhat elevated odds for poor self-perceived health during adulthood in comparison with normal birth weight (NBW) individuals, although the effect size was very small and dependent on the outcome measure used. Co-twin control analyses suggested that this increased risk may be due to shared underlying liability (environmental or genetic) rather than causal in nature, although findings were not conclusive.