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A high BMI in childhood linked to greater heart disease risk in adolescence

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Children who have a high body mass index (BMI) between 9 and 12 years of age are more likely to have high blood pressure, cholesterol and blood insulin levels (all risk factors for developing heart disease) by the time they reach adolescence, according to a study published in the British Medical Journal today.

Reassuringly, say the authors, children with a high BMI who shed the weight by the time they reach adolescence have better heart disease risk profiles than those who remain overweight.

It was well known that greater childhood or adolescent obesity is linked to a higher risk of heart disease in later life. However, this is the first study to investigate the link between BMI, waist circumference, and fat mass at age 9-12 and heart disease risk factors at age 15-16.

A total of 5,235 children took part in the study, led by Professor Debbie Lawlor from the University of Bristol. The children were part of the Avon Longitudinal Study of Parents and Children (ALSPAC), which has tracked the health of more than 14,000 children since birth.

The researchers assessed the childrens' BMI, waist circumference, and fat mass between the ages of 9 to 12.

When the children reached adolescence (15 -16 years of age) their blood pressure, cholesterol, glucose and insulin levels were tested. Positive results in these tests are risk factors for heart disease.

The results show that a high BMI at age 9-12 was associated with adverse heart disease risk factors at age 15-16, even when the analysis was adjusted for a wide range of other factors. Interestingly, waist circumference or fast mass measurements were not linked with adolescent heart disease risk factors any more strongly than BMI.

It is reassuring, say the authors, that overweight children who change to normal weight by the time they reach adolescence have better heart disease risk profiles than overweight children.

However they conclude: "Our findings highlight the need to shift the whole childhood population distribution of adiposity downwards and to develop interventions that safely and effectively reduce weight and improve cardiovascular risk factors in overweight/obese children."

Provided by British Medical Journal