

Excessive BMI increase during puberty identified as a new risk factor for mortality due to cardiovascular disease

November 9 2016, by Margareta Gustafsson Kubista

Boys with a large increase in body mass index (BMI) during puberty are at increased risk of death due to cardiovascular disease later in life.

There is no corresponding risk among boys overweight when younger and who have normal weight during adolescence, according to a study from Sahlgrenska Academy.

The study included over 37,600 men born 1945-61, whose height and weight are well documented from both the school health care records and military conscription tests. The change in BMI during [puberty](#) was calculated using BMI values at 8 and 20 years of age.

That obesity in adults is a risk factor for cardiovascular disease is well known. The current study, however, is the first to evaluate the contribution of BMI during the two distinct developmental periods; childhood and puberty, for [cardiovascular mortality](#) in adult men.

Puberty decisive

Increased cardiovascular mortality was seen in boys with a large increase in BMI during puberty, while there was no increased risk for those who were overweight prior to puberty but whose BMI normalized during puberty. Thus excessive BMI increase during puberty seems unhealthy.

"In this study, we show that a large increase in BMI during puberty is

particularly important, while high BMI at age 8 is not linked to [increased risk](#) of cardiovascular death," says Jenny Kindblom, associate professor at the University of Gothenburg's Sahlgrenska Academy.

Important to follow BMI

BMI increases during puberty as a part of normal pubertal development. According to the present study, the increased risks occur in the group of [boys](#) whose BMI increased by more than 7 BMI units during puberty. Within this group, the risk of death due to cardiovascular disease later in life increases by 22 percent for every extra BMI unit.

"Our data suggest that BMI should be monitored in schoolchildren extra closely during puberty for the early identification of individuals at high risk of suffering from [cardiovascular disease](#) in the future," says Professor Claes Ohlsson.

More information: Claes Ohlsson et al. Association between excessive BMI increase during puberty and risk of cardiovascular mortality in adult men: a population-based cohort study, *The Lancet Diabetes & Endocrinology* (2016). [DOI: 10.1016/S2213-8587\(16\)30273-X](#)

Provided by University of Gothenburg

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