

Children are less likely to be obese if mothers stick to a healthy lifestyle

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Children of mothers who follow a healthy lifestyle have a substantially lower risk of developing obesity than children of mothers who don't make healthy lifestyle choices, finds a study published in *The BMJ*.

The findings show that risk was lowest among [children](#) whose [mothers](#) maintained a healthy weight, exercised regularly, did not smoke, ate a healthy diet, and were light to moderate drinkers.

The researchers suggest that if both mothers and their children stuck to a healthy [lifestyle](#) this could result in an even further reduction in the risk of childhood obesity.

One in five American children and teenagers aged 6-19 years is obese. Obesity in childhood is associated with an increased risk of several disorders, including diabetes and cardiovascular disease, as well as premature death, in adulthood.

Identifying risk factors for the prevention of childhood obesity has become a public health priority. While the role of genetics in obesity is widely recognised, a rapid increase in obesity in recent years is more likely to be due to lifestyle changes.

Previous studies have shown that children's lifestyle choices are largely influenced by their mothers, however, it is unknown whether healthy lifestyle patterns in mothers during their offspring's childhood and adolescence influence the development of obesity.

So an international team based in Canada and the USA set out to investigate whether mother and child lifestyle factors have an effect on the risk of childhood obesity.

They examined medical history and lifestyle characteristics of 24,289 children aged 9-14 years who were born to 16,945 women in two US studies, the Nurses' Health Study II (NHSII) and Growing Up Today Study (GUTS).

Participants completed detailed questionnaires about their medical

history and lifestyle, including body mass index (BMI), physical activity levels and diet. Mothers were also asked about their alcohol intake and smoking history.

Based on this information, the researchers calculated the risk of obesity for each child, using BMI measurements.

Generally, a BMI between 18.5 and 24.9 indicates a healthy weight. Below 18.5 is in the underweight range, between 25 and 29.9 is in the overweight range, and between 30 and 39.9 is in the obese range.

Women were on average 41 years old with a mean BMI of 25 and most (93%) were not current smokers. Their offspring were on average 12 years of age, and 46% were boys.

After taking account of potentially influential factors, such as age, ethnicity, history of chronic diseases, household income and education, the researchers found that the risk of obesity was 56% lower in children of women with a healthy body weight than children of mothers in other BMI categories.

Compared with offspring of women who were current smokers, children of non-smoking mothers had 31% lower risk of obesity.

Children of mothers who exercised for the recommended 150 minutes or more a week—and who were light to moderate drinkers (1-2 small glasses of wine or a pint of standard strength beer a day) - also had a lower risk of obesity compared with children of mothers who did not exercise and who did not drink alcohol.

Lastly, children of mothers who followed all five low risk lifestyle factors (a high quality diet, normal body weight, regular physical activities, light to moderate intake of alcohol, and non-smoking) had a

75% lower risk of developing obesity, compared with offspring of women who did not meet any of the low risk lifestyle factors.

This is an observational study, so no firm conclusions can be drawn about cause and effect, and the researchers outline some study limitations. For example, lifestyle characteristics, like weight, food intake and amount of physical activity of mothers and their children were exclusively based on self reports, which may have been subject to measurement errors.

Nevertheless, they say their study "shows that mothers' overall [healthy lifestyle](#) during the period of their offspring's childhood and adolescence is associated with a substantially lower risk of obesity in their children".

These findings highlight the potential benefits of implementing parent based interventions to curb the risk of [childhood obesity](#), they say.

"Prospective research examining the role of fathers in the development of [obesity](#) in offspring is needed" they add.

More information: Association between maternal adherence to healthy lifestyle practices and risk of obesity in offspring: results from two prospective cohort studies of mother-child pairs in the United States, *BMJ* (2018). DOI: 10.1136/bmj.k2486 , www.bmj.com/content/362/bmj.k2486

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