

Higher BMI in childhood may help protect women against breast cancer in later life, both before and after the menopause

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A study of more than 173,000 women in Denmark, presented at the European Congress on Obesity (ECO) held online this year, suggests that girls with a higher body mass index (BMI) during childhood are less likely than their peers with a lower BMI to develop breast cancer as adults, both before and after the menopause.

The findings contrast with those for adult BMI, which indicate that women who gain weight after menopause have an increased risk of postmenopausal breast cancer. While the authors are unsure why children with a higher BMI appear to be protected against breast cancer, they caution that having overweight or obesity can have many adverse impacts on [general health](#).

"Our results suggest that having a higher BMI during childhood may lower your risk of breast cancer both before and after the menopause. But we must be really clear that [weight gain](#) should not be considered as a way of preventing breast

cancer", says lead author Dr. Dorthe Pedersen from Bispebjerg and Frederiksberg Hospital, Copenhagen, Denmark. "There are so many [health risks](#) linked with having overweight or obesity, it is vital for women to maintain a healthy weight throughout their lives."

Breast cancer is the most common cancer in women, with around 55,000 women diagnosed every year in the UK alone, and almost 1 in 5 cases developing in those under the age of 50. Previous research has established a link between increased BMI in adult women and a lower risk of breast cancer before the menopause, but an increased risk after menopause. Although a high childhood BMI may be protective against the risk of overall breast cancer, past studies had not been large enough to investigate the link by type menopausal status.

To provide more evidence, Danish researchers analysed data for 173,373 women from the Copenhagen School Health Records Register born between 1930 and 1996 (aged 25 to 91 years now) who had information on height and weight measured at annual school health examinations from ages 7 to 13 years. Cases of breast cancer were identified by linking with the Danish Cancer Registry.

During an average of 33 years of follow-up, 4,051 women were diagnosed with breast cancer before the menopause (at 55 years of age or younger), and 5,942 [women](#) after the menopause (after age 55 years).

The analyses suggest "inverse associations" between childhood BMI and breast cancer risk before and after the menopause, which means that breast cancer risks decreased as BMI increased. For example, when comparing two 7 year-old girls

with an [average height](#) and one z-score difference in BMI (equivalent to 2.4 kg), the girl with the highest BMI had a 7% lower risk of developing pre-menopausal [breast cancer](#) and a 10% lower risk of developing post-menopausal [breast cancer](#) than the girl with the lower BMI.

The authors say that further studies are needed to uncover the mechanisms underlying these associations. They acknowledge that the findings are associations only, so no conclusions can be drawn about cause and effect, and point to several limitations, including that the study used BMI as a marker of fat mass, but children with the same BMI can have different body fat distributions and overall levels of body fat.

More information: This article is based on oral presentation TS02.04 at the European Congress on Obesity (ECO).

Provided by European Association for the Study of Obesity

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