Weight Loss May Lower Obesity-Related Cancer Risk

A new study finds that lifestyle interventions can reduce the likelihood of developing an obesity-related cancer by 16%.

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A large and consistent body of research shows that adults with obesity are at increased risk of at least a dozen types of cancer. But will losing weight through diet and exercise reverse that risk? A new study suggests it can.

Published in Obesity, the study suggests that an intensive weight loss program, through calorie cutting and exercise, lowered the incidence of obesity-related cancers in adults that are overweight or obese and have type 2 diabetes.

This study is the first randomized clinical trial to examine the impact of a lifestyle-intervention, focused on weight loss, on long-term cancer outcomes. The relatively small sample size may explain why the lower risk did not reach the threshold for statistical significance; the authors note that the difference could be due to chance.

Excess body fat increases cancer risk

AICR's latest report found that excess body fat increases the risk of twelve cancers, including colorectal, post-menopausal breast and esophageal cancer. Too much body fat can spur cancer growth by several ways. Excess fat tissue can lead to chronic inflammation and unhealthy levels of insulin and other hormones, for example, which are associated with cancer cell growth.

"The 16 percent reduction in obesity-related cancers is a promising finding and potential indication that the risk associated with excess weight are reversible by weight loss," said Nigel Brockton, Vice President of Research at the American Institute for Cancer Research—"This study also highlights the urgent need for larger randomized trials with greater statistical power to test the effects of weight loss on the risk of obesity-related cancers."

How lifestyle changes and weight loss affect cancer risk

For this analysis, the researchers used data from 4,859 participants in the Look AHEAD (Action for Health in Diabetes) trial. The trial included individuals that were overweight or had obesity, and type 2 diabetes, from across the US. Participants were ages 45 to 76 when they entered the trial

and without a cancer diagnosis – except for possibly nonmelanoma skin cancer – and with a body mass index within the categories for overweight or obesity.

The trial randomly assigned participants to either a diabetes support and education (control) group or a lifestyle intervention group, where the goal was to achieve and maintain a weight loss of at least 7 percent. The program included reduced calorie intake and increased physical activity, helped by regular group and individual counseling sessions throughout the first year then continued contact. The dietary intake goal was between 1,200 to 1,800 calories daily and at least 175 minutes of moderate-intensity physical activity weekly.

Participants assigned to the control group received diabetes support and education, with only infrequent information sessions on diet and exercise.

The endpoint: a reduced risk of cancer development

Findings showed that participants in the lifestyle intervention group lost more weight than those in the control group throughout the study, but especially in the first year.

After an average follow-up of 11 years, 684 participants had been diagnosed with cancer. Participants in the lifestyle intervention group had a 16 percent lower risk of developing an obesity-related cancer compared to the control group.

There was no significant difference between the two groups in the incidence of total cancer, non-obesity related cancers, and cancer mortality.

Is a reconsideration of statistical significance needed?

An accompanying commentary in the same issues notes that recently, scientists are rethinking the interpretation of clinical trial results and the evaluation of statistical significance.

“In interpreting clinical trial and other studies in humans, we need to look at what the data shows in terms of endpoint effect of an intervention or association. In other words, how much does a risk factor or a prevention factor decrease or increase risk compared with not having that risk or prevention factor,” said commentary co-author Anne McTiernan, MD, PhD, of the Fred Hutchinson Cancer Research Center.

Statistical tests such as confidence intervals indicate how many times we might make an error by saying there’s no real effect. The confidence limits are affected strongly by sample size.

“Regardless of the confidence intervals, the fact still remains that those in the lifestyle program had a 16 percent lower risk of developing an obesity-related cancer,” says McTiernan, who was also an expert panelist on AICR/WCRFs Continuous Update Project.

Previous cancer trials produced similar results

This trial adds support to previous observational and mechanistic studies investigating weight loss and cancer risk. These studies include findings on bariatric surgery lowering the risk of some

cancers, as well as observations that women who lost weight had lower risk of breast cancer.

Limitations of the study

The study findings are limited in several ways, such as the trial included only adults with type 2 diabetes and so may not be applicable to all adults having overweight. Participants in the comparison group also lost weight over the study period, which may have reduced their obesity-related cancer risks. That may also explain some of the non-significant results, the authors write.

“Although the result was not statistically significant, this finding provided evidence that patients with obesity can reduce their cancer risk through weight loss,” the paper concludes.

Aside from not smoking, AICR research shows that staying at a healthy weight throughout life is the single most important way to protect against cancer.

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