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Intensive lifestyle intervention focused on weight loss lowers obesity-related cancer risk

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New research shows that an intensive lifestyle intervention (ILI) aimed at weight loss lowered incidence of obesity-related cancers in adults with overweight or obesity and type 2 diabetes, according to a study published

online in *Obesity*, the flagship journal of The Obesity Society. This study is the only randomized clinical trial that has examined long-term cancer outcomes in an ILI focused on weight loss.

Previous observational studies have shown obesity is associated with increased risk of some cancers, but there was no evidence from clinical trials to date that have evaluated whether ILI for weight loss can reduce the risk of cancer.

"Healthcare providers should be encouraged to provide such counseling or refer patients with obesity to intervention programs that help people manage their weight. Moreover, establishing an environment with easier access to healthy food and physical activities is the foundation of obesity and cancer prevention," said Hsin-Chieh "Jessica" Yeh, Ph.D., associate professor of medicine, epidemiology, and oncology and associate director, Welch Center for Prevention, Epidemiology, and Clinical Research at Johns Hopkins University in Baltimore, Md. Yeh is the corresponding author of the study.

Data from the Look AHEAD (Action for Health in Diabetes) trial were examined for this study. Researchers investigated whether participants randomized to the ILI designed for weight loss would have reduced overall cancer incidence, obesity-related cancer incidence, and cancer mortality as compared with the Diabetes Support and Education (DSE) comparison group.

For the analysis of cancer outcomes, 4,859 participants who had not reported a cancer diagnosis at baseline (except for nonmelanoma cancer) were included. Participants had to meet the following criteria: 45 to 76 years of age, body mass index greater than 25, glycated hemoglobin less than 11 percent, blood pressure readings less than 160/100 mm Hg, triglyceride levels less than 600 mg/dL and completion of a maximal graded exercise test. Participants were randomly assigned to an ILI or a

DSE by a web-based data management system between August 22, 2001 and April 30, 2004 at Wake Forest School of Medicine in Winston-Salem, NC.

The ILI was designed to achieve and maintain weight loss of at least 7 percent by facilitating reduced caloric intake and increased physical activity. Specific intervention strategies included a calorie goal of 1,200 to 1,800 kcal/d, the use of meal replacement products and at least 175 minutes of moderate-intensity physical activity per week. For the DSE comparison group, diabetes support and education was provided through three group sessions per year on diet, exercise and social support during years one through four. In subsequent years, the frequency was reduced to one session annually.

After an average follow-up of 11 years, 684 participants (332 in ILI and 352 in DSE) were diagnosed with cancer. The incidence rates of obesity-related cancers were 6.1 and 7.3 per 1,000 person-years in ILI and DSE, respectively, with a hazard ratio (HR) of 0.84 (95 percent confidence interval (CI), 0.68 to 1.04). No significant difference existed between the two groups in total cancer incidence (HR 0.93, 95 percent CI, 0.80 to 1.08), incidence of non-obesity related cancers (HR 1.02, 95 percent CI 0.83 to 1.27) or total cancer mortality (HR, 0.92, 95 percent CI 0.68 to 1.25).

Researchers found an ILI aimed at weight loss lowered incidence of obesity-related cancers by 16 percent in adults with overweight or obesity and type 2 diabetes. Researchers noted the sample size likely lacked power to determine effect sizes of this magnitude and smaller.

"While underpowered to detect significant differences, this analysis of Look AHEAD data is an important contribution, as it is one of the first studies to provide empirical data to suggest that a weight loss-focused lifestyle intervention can help to lower risk of obesity-related cancers,"

said Tiffany L. Carson, Ph.D., MPH, assistant professor, Division of Preventive Medicine, Department of Medicine, University of Alabama at Birmingham. Carson was not associated with the research.

Carson added "in addition to having adequate sample sizes to test for effects which will likely require pooled data, future studies should also explore the magnitude of weight loss that is needed to lower risk for obesity-associated cancers."

Provided by The Obesity Society

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