

Predicted rise in Canadian obesity rate may lead to higher cancer burden

January 26 2018

Reducing the number of overweight and obese Canadians by 50 percent could potentially prevent a cumulative 59,829 cases of cancer by 2042, according to estimates presented at the American Association for Cancer Research Special Conference Obesity and Cancer: Mechanisms Underlying Etiology and Outcomes, held Jan. 27-30.

"Cancer is the leading cause of death in Canada, and several [cancer](#) types have strong associations with [excess body weight](#); yet the number of Canadians who are overweight or obese is increasing," said Darren Brenner, PhD, assistant professor in the departments of Oncology and Community Health Sciences at Cumming School of Medicine, University of Calgary, Alberta, Canada.

Brenner is part of a collaborative group from multiple institutions across Canada working together on the Canadian Population Attributable Risk of Cancer Project (ComPARE). The goal of this project is to estimate how many new cases of cancer are caused by 25 different risk factors, including lifestyle factors such as diet, [body](#) size, and physical activity, and how many could be avoided over the next 30 years if changes in behaviors were made, Brenner said.

Using population-level data and statistical approaches, Brenner and colleagues first projected the number of Canadians with excess body weight (overweight plus obesity) over the next 30 years. They found that in 2011, the prevalence of overweight and obesity in Canada was 32.7 percent and 17.8 percent, respectively.

"If current trends continue, by 2032, the prevalence of overweight and obesity will be 31.2 percent and 27.9 percent, respectively," Brenner noted.

Using data from 2012, the researchers estimated that 8,626 cancer cases (3,886 for men and 4,740 for women) were attributable to excess body weight, accounting for 9.4 percent of the 91,373 associated cancer cases (8.8 percent for men and 10.1 percent for women). The researchers then projected that in 2042, 15,747 cancer cases for men and 10,312 cancer cases for women would be attributable to excess body weight, accounting for 10.8 percent of the 146,260 associated cancer cases in men and 11.2 percent of the 92,233 associated cancer cases in women.

"After projecting the future prevalence of excess body weight and cancer incidence attributable to excess body weight, we asked how the trends in excess body weight could be influenced by effective interventions," said Brenner.

The team studied scenarios of interventions that would reduce the prevalence of excess body weight by 10, 25, and 50 percent by 2042 and then estimated the cancer burden under these new scenarios. "The difference in [cancer incidence](#) between our projected data and our 'prevention' scenarios would be the future potential for cancer prevention," Brenner explained. The scenarios were meant to simulate population-level implementation of existing intervention programs, policy changes to impact healthy behavior decision making, or a return to obesity levels in 1990.

The researchers found that if it is possible to intervene on excess body [weight](#) and reduce the prevalence of both overweight and obesity by 10, 25, and 50 percent, it would be possible to prevent 1,660, 4,150, and 8,300 cancer cases in 2042, and a cumulative number of 11,966, 29,914, and 59,829 cancer cases by 2042, respectively.

"Our data provide alarming estimates of the consequences of inaction in Canada," Brenner said. "The results of this study will inform policymakers, public health officials, and the Canadian population with targets to lower future cancer burden."

According to Brenner, limitations of the study are that the estimates of overweight and [obesity](#) used in this study were based on self-reported data, and that the researchers assumed a latency period of 10 years between exposure to a risk factor and cancer diagnosis, which is a potential over-simplification since the latency period for some exposures is longer.

Provided by American Association for Cancer Research

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