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Half a million new cancers in 2012 due to overweight and obesity Proportion of obesity-related cancers higher in women

Lyon, France, 26 November 2014 - A new study by the International Agency for Research on Cancer (IARC), the specialized cancer agency of the World Health Organization (WHO), shows that nearly half a million new cancer cases per year can be attributed to high body mass index (BMI)¹. The study, published today in *The Lancet Oncology*, highlights that overweight and obesity² have become a major risk factor, responsible for an estimated 3.6% (481 000) of all new cancer cases in 2012.

Striking global disparities

Global analysis shows that cancer due to overweight and obesity is currently far more common in more developed countries (393 000 cases, 5.2% of all new cancer cases in these countries) than in less developed countries (88 000 cases, 1.5% of all new cancer cases in these countries). North America remains the most affected, with an estimated 111 000 obesity-related cancers in 2012, accounting for 23% of the total global cancer burden linked to high BMI.

In Europe, the proportion of cancers due to overweight and obesity is also large, particularly in eastern Europe (65 000 cases, 6.5% of all new cancer cases in the region).

Overall, the countries with the highest cancer burden attributable to overweight and obesity in men are the Czech Republic (5.5% of the country's new cancer cases), Jordan (4.5%), the United Kingdom (4.4%), and Malta (4.4%). Among women, Barbados (12.7%), the Czech Republic (12.0%), and Puerto Rico (11.6%) are most affected. In the USA, one of the largest contributors of global cancers associated with high BMI, 3.5% and 9.5% of the country's new cancer cases are linked to excess body weight in men and women, respectively.

Although in most Asian countries the proportion of cancers associated with overweight and obesity is not large, it still translates into a considerable absolute number of cases, due to the large population size. For example, in China, about 50 000 cancer cases in women and men are associated with overweight and obesity, accounting for 1.6% of the country's new cancer cases. In contrast, the contribution of overweight and obesity to cancer burden remains low in Africa (7300 cases, 1.5% of all new cancer cases in the continent).

"Overall, we see that while the number of cancer cases associated with overweight and obesity remains highest in richer countries, similar effects are already visible in parts of the developing world," says Dr Isabelle Soerjomataram, one of the study's lead authors and the project's principal investigator.

Women are more affected

High BMI is a known risk factor for cancers of the oesophagus, colon, rectum, kidney, pancreas, gallbladder, postmenopausal breast, ovary, and endometrium, as well as for other noncommunicable diseases, notably cardiovascular disease and diabetes³.

The study highlights that the proportion of cancers related to obesity is higher in women than in men, with population attributable fractions of 5.3% and 1.9%, respectively. "Women are disproportionately affected by obesity-related cancers," says IARC's Dr Melina Arnold, one of the study's lead authors, "For example, for postmenopausal breast cancer, the most common cancer in women worldwide, the study suggests that 10% of these cancers could have been prevented by having a healthy body weight."

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Proportion of obesity-related cancers higher in women

Cancers of the endometrium, colon, and breast account for almost three quarters (73%) of all cancers linked to high BMI in women. In men, kidney and colon cancers together account for two thirds (66%) of all cancers associated with high BMI.

Potential for prevention

“These worrying results highlight that it’s crucial to maintain a healthy weight to prevent so many common cancers,” says Dr Kate Allen, Executive Director of Science and Public Affairs at World Cancer Research Fund International, which funded the project. “In the United Kingdom, 13 000 cases diagnosed in 2012 in women (8.2% of all cancers) could be ascribed to overweight and obesity. It’s also alarming to see that men in the UK are fourth in the world in this obesity cancer league table, with 7200 cases (4.4% of all cancers) attributed to being overweight or obese. Cancer is an epidemic problem, and to tackle it we need to help people take measures to be a healthy weight.”

Reducing overweight and obesity at the population level could have significant health benefits, including reducing the burden of cancer. The study also shows that one quarter of all cancers attributable to overweight and obesity worldwide (118 000 cases) could have been prevented if populations had simply maintained their average BMI of 30 years ago.

“The number of cancers linked to obesity and overweight is expected to rise globally along with economic development,” says Dr Christopher Wild, Director of IARC. “This study stresses the importance of putting in place efficient weight control measures, to curb the high number of cancers associated with excess body weight and to avoid the problems faced by rich countries being repeated in those now undergoing rapid development.”

Notes

¹ BMI is a measure of body fat, calculated by dividing the weight in kilograms by the square of the height in metres.

² WHO defines overweight as a BMI greater than or equal to 25 kg/m², and obesity as a BMI greater than or equal to 30 kg/m².

³ *Global status report on noncommunicable diseases 2010*. Geneva, World Health Organization, 2011.

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization (WHO). Its mission is to coordinate and conduct research on the causes of human cancer and the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.fr.