International Agency for Research on Cancer

World Health Organization

PRESS RELEASE
N° 247

25 August 2016

IARC identifies eight additional cancer sites linked to overweight and obesity

Lyon, France, 25 August 2016 – A new evaluation carried out by the IARC Handbooks of Cancer Prevention programme has concluded that overweight/obesity is a risk factor for more cancer sites than previously established. Based on a systematic review of the published scientific literature, the Working Group for IARC Handbooks of Cancer Prevention Volume 16: Body Fatness provided the latest evaluation of the cancer-preventive effects of the absence of excess body fatness. A summary of the results is published today in *The New England Journal of Medicine*.

A Working Group of 21 independent international experts, convened by the International Agency for Research on Cancer (IARC), assessed more than 1000 studies, including intervention trials, cohort and case–control studies, studies in experimental animals, and studies on the mechanisms linking excess body fatness and cancer.

“This comprehensive evaluation reinforces the benefits of maintaining a healthy body weight in order to reduce the risk of several different types of cancer,” says Dr Béatrice Lauby-Secretan, lead author of the new article.

Link between overweight/obesity and cancer

The experts confirmed the previous evaluation of the IARC Handbooks (Volume 6, published in 2002) that the absence of excess body fatness reduces the risk of cancers of the colon and rectum, oesophagus (adenocarcinoma), kidney (renal cell carcinoma), breast in postmenopausal women, and endometrium of the uterus.

In addition, the review of the available literature for middle-aged adults showed that there is *sufficient evidence* in humans that the absence of excess body fatness reduces the risk of cancers of the gastric cardia, liver, gallbladder, pancreas, ovary, and thyroid, and meningioma, and multiple myeloma. There is also *limited evidence* that the absence of excess body fatness reduces the risk of fatal cancer of the prostate, cancer of the breast in men, and diffuse large B-cell lymphoma.

The Working Group also reviewed data pertaining to body fatness in children, adolescents, and young adults (aged up to 25 years) to assess whether obesity at earlier periods of life is linked with cancer in adult life. For several cancer sites, including the colon and the liver, associations between excess body weight and cancers were observed that were similar to those reported in adults.

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It is well established that overweight in experimental animals increases the incidence of several types of cancer. Studies in overweight animals showed that caloric or dietary restriction reduces the risk of cancers of the mammary gland, colon, liver, pancreas, skin, and pituitary gland.

Global burden of overweight and obesity

Body fatness is assessed primarily by body mass index (BMI), defined as a person's weight in kilograms divided by the square of their height in metres (kg/m^2). In adults, overweight is defined as BMI ≥ 25 kg/m^2, and obesity as BMI ≥ 30 kg/m^2. Worldwide, an estimated 640 million adults were obese in 2014 (a 6-fold increase since 1975) and 110 million children and adolescents were obese in 2013 (a 2-fold increase since 1980). The estimated age-standardized prevalence of obesity in 2014 was 10.8% in men, 14.9% in women, and 5.0% in children, and globally more people are overweight or obese than are underweight.

In 2013, an estimated 4.5 million deaths worldwide were attributable to overweight and obesity. The identification of new obesity-related cancer sites will add to the number of deaths worldwide attributable to obesity.

"The new evidence emphasizes how important it is to find effective ways, at both the individual and societal level, to implement World Health Organization recommendations on improving diets and physical activity patterns throughout life if the burden of cancer and other noncommunicable diseases is to be tackled," says IARC Director Dr Christopher Wild.

Note to the Editor:

These assessments will be published as IARC Handbooks of Cancer Prevention Volume 16.

For more information on the evaluations, read the IARC Handbooks Volume 16 Q&A:

http://www.iarc.fr/en/media-centre/iarcnews/2016/handbook16_iarc2016.php

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