

Based on a rigorous analysis of data compiled from nearly 40 cohort studies involving more than 400,000 adults, there was a positive and continuous association between increases in BMI and all-cause cancer death rates in the Asia-Pacific Cohort Studies Collaborative Group...

Body-Mass Index and Cancer Mortality in the Asia-Pacific Cohort Studies Collaboration: Pooled Analyses of 424,519 Participants

Authors: C Parr, G Batty, T Lam, F Barzi, et al.

Reference: Lancet Oncology 2010; 11(8): 741-752

<http://www.thelancet.com/journals/lanonc/article/PIIS1470-2045%2810%2970141-8/abstract>

Reviewer: Robert Goldberg, PhD, Contributing editor, ProCor; Professor of Medicine and Epidemiology, Division of Cardiovascular Medicine, University of Massachusetts Medical School, Worcester, Massachusetts, USA

Reviewer comments: While excessive body weight has been consistently associated with an increased risk for CVD, as well as other chronic diseases of major public health importance including diabetes and stroke, it is unclear whether overweight and obese individuals are at increased risk for developing, and/or dying from, cancer, overall and/or at specific organ sites. Moreover, it remains unclear whether the findings observed between overweight/obesity in Western populations pertain to individuals from Asian countries, in whom the prevalence of obesity is considerably lower but in whom actual adiposity can be considerably greater at the same body mass index (BMI).

The results of the present study, based on a rigorous analysis of the data compiled from nearly 40 cohort studies involving more than 400,000 adults, suggest that there was a positive and continuous association between increases in BMI and all-cause cancer death rates in the Asia-Pacific Cohort Studies Collaborative Group. Compared with normal weight individuals, persons who were overweight or obese were at 6% and 21% increased risk, respectively, for dying from all cancers. There was a particularly increased risk associated with being obese for cancers of the large intestine, breast, ovary, cervix, and prostate, as well as leukemia. Of considerable etiologic and public health importance, there were little to no regional differences in the risk of dying from various cancers in persons from Asian countries compared to those residing in Australia and New Zealand.

These results, in conjunction with the well known and documented adverse health effects associated with obesity in both apparently healthy and ill individuals, reinforce the importance of healthy eating practices, regular daily consumption of fresh fruits and vegetables, and maintenance of ideal body weight through participation in regular aerobic activity and attention to total daily caloric as well as fat consumption. Population-wide strategies throughout developing and developed countries remain urgently needed to both prevent adolescents and young adults from becoming overweight and obese as well as to design programs that will assist overweight and obese men and women to lose weight which will pay considerable dividends in reducing their risk for cancer and CVD, as well as

improve their quality of life. The obesity epidemic continues to rage on and prevention strategies remain needed at both the individual and population levels to reverse these alarming trends and foster good eating practices, the importance of regular physical activity, and the many benefits that will be gained, including a positive individual and societal self image, by the maintenance of ideal body weight.

Purpose of study: To examine the association between being overweight and/or obese with overall, as well as site specific, cancer mortality in Asian men and women.

Location of study: Oslo, Norway

Study design: Pooled analysis of data from longitudinal studies.

Results: The authors used data from the Asia-Pacific Cohort Studies Collaboration (APCSC) to examine the proposed associations in. This is a large collaborative pooling project that involves the analysis of data from 39 cohorts, involving nearly 425,000 adults, recruited over the period 1961-1999 who were enrolled in a series of longitudinal investigations.

The average age of the overall study sample was 48 years, 41% were women, and three quarters of this population were comprised of Asian study cohorts (e.g., mainland China, Taiwan, Japan, Thailand), with the remainder coming from the Asia-Pacific region, primarily Australia and New Zealand. The average BMI was considerably higher in Australian/New Zealand men and women (26 kg/m²) than in Asian men and women (23 kg/m²).

Over the course of 2.7 million person years of follow-up, there were a total of 7211 deaths due to cancer, of which 4130 occurred in the Asian cohorts. The most common cancer site in this pooled population was lung cancer (n=1478) followed by malignant neoplasias of the stomach (n=855), liver (n=774), and large intestine (n=668).

In examining the relation between BMI and mortality from all cancer sites, there was an increased risk of dying from all cancers in both underweight (HR=1.13) and obese (HR=1.11) individuals compared with individuals who were in the normal weight reference group. There was an increased risk associated with being obese, in comparison with normal weight individuals, with regards to colon cancer (HR=1.50), rectal cancer (HR=1.68), breast cancer (HR=1.63), ovarian cancer (HR=2.62), cervical cancer (HR=4.21), prostate cancer (HR=1.45), and leukemia (HR=1.66). There were few differences in the risk of dying from these cancers in persons from Asian countries, in comparison to persons from Australia and New Zealand, with the exception of oropharyngeal cancers in which the association was inverse in Australian and New Zealand cohorts and not apparent in the Asian cohorts under study.