

Weight at 18 linked to cancer in men decades later

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(Medical Xpress) -- Public health researchers, based at the MRC/CSO Social and Public Health Sciences Unit, have identified a link between men being overweight or obese at age 18 and death from cancer in later life. The study shows the link is apparent even if they reduce their weight during middle age.

The Medical Research Council researchers, in collaboration with researchers at University College London (UCL) and Harvard School of Public Health, analysed the [medical records](#) of around 20,000 male graduates who attended Harvard between 1916 and 1950.

They found that the men in the study who had the highest body mass indexes (BMIs) at age 18 were 35 per cent more likely to die from [cancer](#) than those with lower BMIs. The associations between weight and cancer were particularly strong for lung, skin, oesophageal and urogenital (kidney, bladder, prostate and testicular) cancers. For example, men whose BMI had been greater than the average (21.7) at age 18 had more than a 50 per cent greater risk of dying from lung cancer than those with the lowest BMIs, even after accounting for whether or not they smoked. Importantly, an individual's changes in BMI between early adulthood and [middle age](#) did not influence these effects. The research was funded by the Wellcome Trust and the National Institutes of Health and will be published in the journal *Annals of Oncology*.

Medical Research Council researcher Dr Linsay Gray, lead author of the

study, said: “This is the first time the impact of obesity in early adulthood on later risk of cancer has been so closely examined. It is very interesting that higher BMI at age 18 actually leads to a greater risk for cancer than higher BMI in middle age. The message here is really clear: keeping your weight healthy as a young adult can significantly reduce your chance of developing cancer. These findings point worryingly to a greater future burden of cancer.”

Professor David Batty, Wellcome Trust Fellow at UCL and lead scientist on the project, said: “Investigating the influence, if any, of obesity in late adolescence and [early adulthood](#) on future cancer risk requires studies that have the capacity to track individuals over many decades until they develop cancer. Because such studies are so rare, our results make an important contribution to the field.”

Professor Dame Sally Macintyre, Director of the MRC/CSO Social and [Public Health](#) Sciences Unit, said: “The MRC is committed to understanding the factors that influence healthy ageing throughout life. We lead the way in this area and this study is by far the most comprehensive into the question being addressed here. Our research continues to reinforce the overarching message that [being overweight](#) increases your risk of ill health, so obesity research remains a priority for us.”

More information: ‘Association of body mass index in early adulthood and middle-age with site-specific cancer mortality: over 80 years of follow-up in the Harvard Alumni Health Study’ by Gray L, et al., is published in *Annals of Oncology*.

The research used data from the Harvard Alumni Health Study. The Harvard Alumni Health Study is an ongoing cohort study of chronic disease risk factors in male undergraduates at Harvard University, Boston, USA who registered at the university between 1916 and 1950.

For this study, the medical records of 19,593 of the participants were used.

BMI is a measure of obesity. It is calculated by dividing an individual's weight in kilograms by the square value of their height in metres ($\text{BMI kg/m}^2 = \text{weight kg} / (\text{height m})^2$). For simplicity, the units are often omitted, but a BMI of 21.7 is 21.7 kg/m^2 .

Provided by Medical Research Council

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