

# Weight between young adulthood and midlife linked to mortality: study

August 14 2020

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A new Boston University School of Public Health (BUSPH) study finds that changes in weight between young adulthood and midlife may have important consequences for a person's risk of early death.

Published in *JAMA Network Open*, the study found that participants whose BMIs went from the "obese" range in [early adulthood](#) down to the "overweight" range in midlife halved their risk of dying during the study period, compared with individuals whose BMIs stayed in the "obese" range. On the other hand, weight loss after midlife did not significantly reduce participants' risk of [death](#).

The researchers estimate that 12.4% of early deaths in the US may be attributable to having a higher body mass index (BMI) at any point between early- and mid-adulthood.

"The results indicate an important opportunity to improve [population health](#) through primary and secondary prevention of obesity, particularly at younger ages," says study corresponding author Dr. Andrew Stokes, assistant professor of global health at BUSPH.

"The present study provides important new evidence on the benefit of maintaining a healthy weight across the [life course](#)," says lead author Dr. Wubin Xie, a postdoctoral associate in global health at BUSPH.

The researchers used data from 1998 through 2015 for 24,205 participants from the National Health and Nutrition Examination Survey. The participants were 40-74 years old when they entered the study, and the data included participants' BMI at age 25, 10 years before they entered the study, and when they entered the study. The researchers then analyzed the relationship between BMI change and the likelihood that a participant died over the course of the observed period, controlling for other factors such as participants' sex, past and current smoking, and education level.

They found that study participants whose BMIs went from the "obese" range at age 25 down to the "overweight" range in midlife were 54% less likely to have died than participants whose BMIs stayed in the "obese"

range. Instead, these participants with an "obese" to "overweight" trajectory had a risk of death closer to that of participants whose BMIs had been in the "overweight" range all along.

The researchers estimated that 3.2% of deaths in the study would have been avoided if everyone with a BMI in the "obese" range at age 25 had been able to bring their BMIs down to the "overweight" range by midlife. However, they noted that weight loss was rare overall, and only 0.8% of participants had BMIs that went from the "obese" to the "overweight" range.

The researchers did not find a similar reduction in risk of death for participants who lost weight later in their lives. They wrote that this may be because [weight loss](#) later in life is more likely to be tied to an aging person's worsening [health](#).

"Although this study focused on preventing premature deaths, maintaining a healthy [weight](#) will also reduce the burden of many chronic diseases such as hypertension, diabetes, heart disease, and even cancer," says study co-author Dr. JoAnn Manson, chief of preventive medicine at Brigham and Women's Hospital, and professor of medicine and Michael and Lee Bell Professor of Women's Health at Harvard Medical School.

Provided by Boston University School of Medicine

Citation: Weight between young adulthood and midlife linked to mortality: study (2020, August 14) retrieved 27 April 2024 from <https://medicalxpress.com/news/2020-08-weight-young-adulthood-midlife-linked.html>

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