

Does weight loss reduce risk of early mortality?

March 2 2016, by Peter Janiszewski

The current recommendations from major health organizations stipulate that if an individual has a BMI in the obese range ($>30 \text{ kg/m}^2$), they should be counseled to lose at least 5-10% of their body weight. This advice appears to make some sense given that increasing body weight is generally associated with heightened risk of various diseases, and that reduction of body weight usually improves levels of risk factors for disease (e.g blood pressure, triglycerides, etc). However, the literature has been much more complicated in terms of the effect of weight loss on risk of early mortality.

Adding to that literature is a study by Ingram and Mussolino published in the *International Journal of Obesity*. In essence this study showed that [weight loss](#) of 15% or more was associated with an increased risk of death from all causes among overweight men and among overweight and obese women.

In the study, a sample of 6117 adults above 50 years of age from the National Health and Nutrition Examination Survey (2888 men and 3229 women) were followed from 1988/94 to 2000.

Quite simply, the authors divided the sample into 3 categories of weight loss (greater than 5%, 5-15%, and greater than 15%) and evaluated the prospective risk of mortality depending on the degree of weight loss, with separate analyses in each gender and even within different BMI categories (normal weight, overweight, and obese).

While that may sound straightforward, the way they ascertained the degree of weight loss is quite a bit more convoluted. First they asked the subjects at baseline: 'Up to the present time, what is the most you have ever weighed? (FEMALES): Do not include any times when you were pregnant.'

They then measured the participants' body weight.

Finally, they calculated the subjects' percent weight loss as:

$$((\text{maximum weight} - \text{baseline weight}) / \text{maximum weight}) \times 100$$

During the follow-up time, there were 1602 deaths (835 men and 767 women). Interestingly, in contrast to persons with little or no weight loss (less than 5%, reference category), there was greater risk of early all-cause mortality among those who lost greater than 15% of their maximum body weight, a finding which was statistically significant in overweight men, and in women of all weight categories (normal, overweight, and obese).

While these results may shock some of our readers, similar findings have been reported in numerous other studies. However, many such studies are confounded by various issues making the interpretation of their results rather difficult.

The major limitation to studies ascertaining the relationship between weight loss and mortality risk is delineating intentional (dieting, exercise, etc.) weight loss from unintentional weight loss (loss of body weight due to underlying disease, such as cancer). However, even studies that did separate between intentional and unintentional weight loss have shown conflicting results, suggesting that despite having positive effects on various indicators of health, weight loss may have a negative impact on longevity. Of course, even among those individuals who intentionally lose weight – the methods of doing so can vary widely, with some

undertaking dangerous fad diets, extreme exercise or a regular regimen of random and often dangerous diet pills.

In this current study, all analyses were adjusted for age, race-ethnicity (white, black, Mexican-American), cigarette smoking status (current, former, and never), and history of health conditions related to excess weight and/or to weight loss. To try and control for unintentional weight loss, in addition to controlling for pre-existing health conditions statistically, respondents who died within 3 years of the baseline examination were also excluded.

Despite the new addition to the literature, the issue of weight loss and mortality is far from sorted out. The concern is always that our increasingly obese population will see such findings as a reason to discontinue healthy lifestyle behaviors, or as a reason to maintain their currently poor lifestyle.

It is key to remember that a healthy lifestyle has positive health effects regardless of what happens to one's [body weight](#).

More information: D D Ingram et al. Weight loss from maximum body weight and mortality: the Third National Health and Nutrition Examination Survey Linked Mortality File, *International Journal of Obesity* (2010). [DOI: 10.1038/ijo.2010.41](https://doi.org/10.1038/ijo.2010.41)

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