

Intentional weight loss was associated with lower mortality, whereas unintentional weight loss was associated with increased mortality

Gregg EW, Gerzoff RB, Thompson TJ, et al. *Intentional weight loss and death in overweight and obese U.S. adults 35 years of age and older*. *Ann Intern Med* 2003;138:383-9.

QUESTION: Are weight change and intention to lose weight associated with all cause mortality in adults who are overweight or obese?

Design

Prospective cohort study with 9 years of follow up (mean follow up 8 y).

Setting

USA.

Participants

6391 adults ≥ 35 years of age (mean age 54 y, 55% men, 87% white) with a body mass index (BMI) ≥ 25 kg/m² before weight loss.

Assessment of risk factors

Weight loss intention and weight change during the previous year were assessed by self report in a supplemental survey to the 1989 National Health Interview Survey. The same survey was used to determine age, ethnicity, sex, smoking status, self rated health, hospital admissions, physician visits, chronic and acute conditions, limitations in activities or work, and height and weight.

Main outcome measure

Data on all cause mortality were obtained from the computerised National Death Index.

Main results

57% of participants reported trying to lose weight in the previous year. 58% reported no weight change, 12% reported weight gain, and 30% reported weight loss in the previous year. During follow up, 892 participants (14%) died. Compared with participants not trying to lose weight and reporting no weight change, all cause mortality was lower in participants with an intention to lose weight, independent of actual weight change but was higher in participants with unintentional weight loss (table).

Conclusion

In adults who were overweight or obese, intention to lose weight was associated with reduced all cause mortality, independent of actual weight change; unintentional weight loss was associated with increased all cause mortality.

Hazard ratios for all cause mortality by weight loss intent and actual weight loss

Stratification groups	Adjusted hazard ratio (95% CI)*
Intention to lose weight and no actual weight change	0.80 (0.65 to 0.99)
Intentional weight loss	0.76 (0.60 to 0.97)
Intention to lose weight and actual weight gain	0.94 (0.65 to 1.37)†
Unintentional weight loss	1.31 (1.01 to 1.70)

*Hazard ratios were derived from Cox proportional hazards models and adjusted for age, sex, ethnicity, education, smoking, health status, healthcare utilisation, and initial body mass index. Reference group was participants not trying to lose weight and reporting no weight change.

†Not significant.

COMMENTARY

The study by Gregg *et al* furthers previous research on weight loss and mortality by examining whether intentionality in weight loss, relative to weight change, is associated with mortality. This well controlled epidemiological study addresses a clinically relevant enquiry that has received little research attention.

The study showed that intentional and unintentional weight loss are associated with differential mortality rates. This finding provides insight into earlier observational studies that found weight loss to be associated with increased mortality.¹ Participants who had unintentionally lost weight had the highest mortality rate. This suggests that an underlying cause may exist for weight loss. The study also found that participants who intended to lose weight had lower mortality rates independent of weight change. Further research is needed to explore the underlying mechanisms for the apparent benefit of having an intention to lose weight. Underlying mechanisms may relate to dietary, activity, or other behavioural changes, but remain speculative until further investigation.

A strength of this study was its use of a prospective design with 9 years of follow up; however, it did not investigate the stability or variability of participants' behaviours during the follow up period. People who intend to lose weight often have different behavioural patterns: some are consistent with their new dietary and exercise regimens, some waver with their regimens, and others alternate between dieting and not dieting. Therefore, the findings should be viewed with caution because they extrapolate participants' intentions for 1 year to an effect on their health 9 years later.

The study was based on self reported weight and height, which were used to calculate BMI, but were not objectively confirmed. Self reported weight and height may be inaccurate. Women (*v* men) and people who are heavier (*v* those who are thinner) are more likely to underestimate their weight,² resulting in underestimation of BMI. However, such an underestimation would likely dilute the effect of intentional weight loss on mortality, rather than enhance it.

Nurses who see patients presenting with weight loss should assess whether the loss is intentional or unintentional. Patients with unintentional weight loss, especially in the presence of other relevant clinical signs such as unexplained loss of appetite, should receive further investigation for underlying disease.

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