Fasting diet reduces risk markers of type 2 diabetes, study finds

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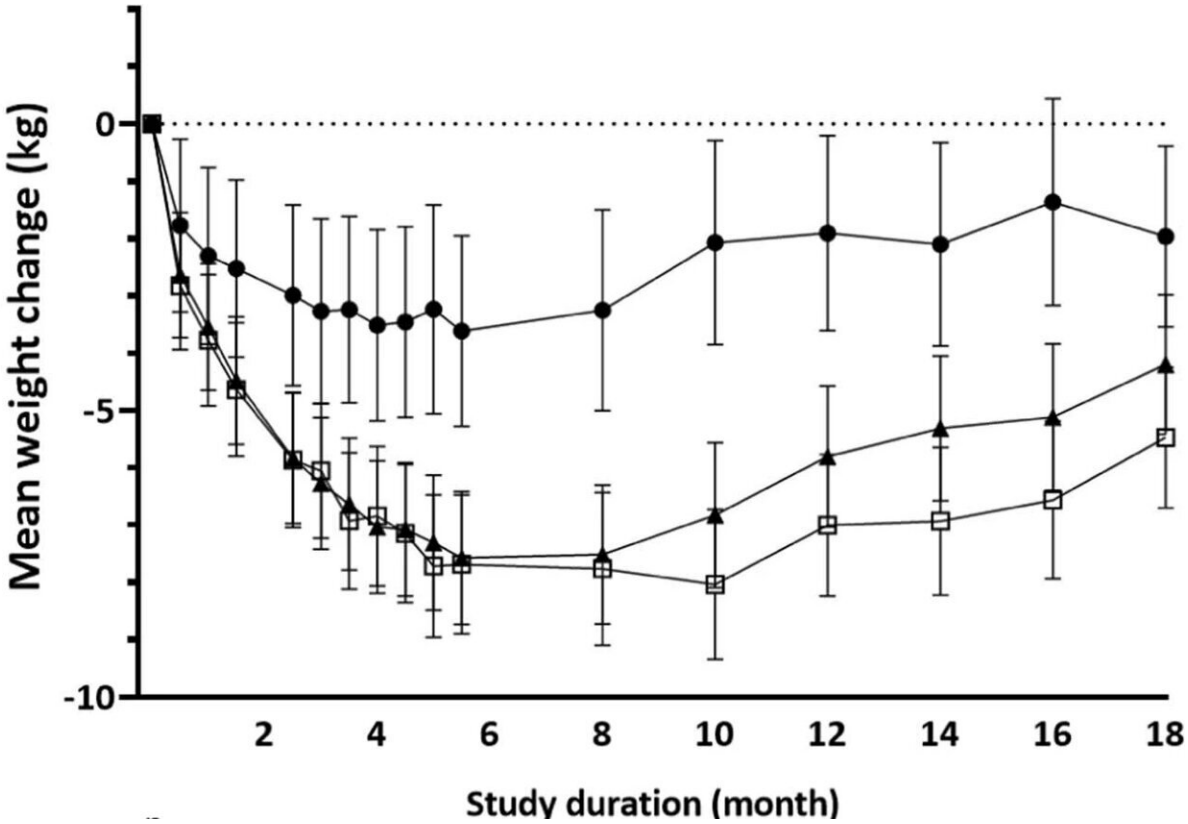

Weight loss (kg) relative to baseline. Presented are means and 95% CIs of the non-fasting weight change by group during each face to face check-in visit. Treatment group trajectories were compared using linear mixed effects regression assuming piecewise linear effects assumed for the interventions over two time periods: month 0–6 and month 7–18, and both random intercepts and slopes for individuals. iTRE, intermittent time-restricted diet at 70% of calculated energy requirements; CR, calorie restriction diet at 70% of calculated daily energy requirements; SC: standard care diet. Credit: *Nature Medicine*

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A fasting diet which focuses on eating early in the day could be the key to reducing the risk of developing type 2 diabetes.

Researchers from the University of Adelaide and South Australian Health and Medical Research Institute (SAHMRI) compared two different diets: a time restricted, intermittent fasting diet and a reduced calorie diet to see which one was more beneficial for people who were prone to developing type 2 diabetes.

"Following a time restricted, intermittent fasting diet could help lower the chances of developing type 2 diabetes," said senior author the University of Adelaide's Professor Leonie Heilbronn, Adelaide Medical School.

"People who fasted for three days during the week, only eating between 8am and 12pm on those days, showed a greater tolerance to glucose after 6 months than those on a daily, low-calorie diet.

"Participants who followed the intermittent fasting diet were more sensitive to insulin and also experienced a greater reduction in blood lipids than those on the low-calorie diet."

Type 2 diabetes occurs when the body's cells don't respond effectively to insulin and it loses its ability to produce the hormone, which is responsible for controlling glucose in blood.

It's estimated that nearly 60 percent of type 2 diabetes cases could be delayed or prevented with changes to diet and lifestyle.

Almost 1.3 million Australians are currently living with the condition, for which there is no cure.

There were more than 200 participants recruited from South Australia in the 18-month study, which was published in the journal *Nature Medicine*.

Participants on both the time restricted, intermittent fasting diet and the low-calorie diet experienced similar amounts of weight loss.

"This is the largest study in the world to date and the first powered to assess how the body processes and uses glucose after eating a meal, which is a better indicator of diabetes risk than a fasting test," said first author Xiao Tong Teong, a Ph.D. student at the University of Adelaide.

"The results of this study add to the growing body of evidence to indicate that meal timing and fasting advice extends the health benefits of a restricted calorie diet, independently from weight loss, and this may be influential in clinical practice."

Further research is needed to investigate if the same benefits are experienced with a slightly longer eating window, which could make the diet more sustainable in the long term.

More information: Leonie Heilbronn, Intermittent fasting plus early time-restricted eating versus calorie restriction and standard care in adults at risk of type 2 diabetes: a randomized controlled trial, *Nature Medicine* (2023). DOI: 10.1038/s41591-023-02287-7. www.nature.com/articles/s41591-023-02287-7

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