

Time-Restricted Eating and Caloric Restriction Have Similar Benefits for NAFLD

Changes in liver fat, metabolic factors and liver enzymes were comparable with both dietary interventions.

May 15, 2023 By [Sukanya Charuchandra](#)

Time-restricted eating is not more beneficial than daily calorie restriction alone for people with non-alcoholic fatty liver disease (NAFLD), according to findings published in [JAMA Network Open](#).

Arising from the accumulation of fat in the liver, [NAFLD](#) and its more severe form, non-alcoholic steatohepatitis (NASH), are responsible for a growing proportion of advanced liver disease worldwide. As a result of inflammation, NAFLD can lead to liver fibrosis, cirrhosis and even [liver cancer](#). Fatty liver disease is often associated with obesity and diabetes. With no effective approved medical therapies, disease management is dependent on lifestyle changes such as weight loss and exercise.

Huijie Zhang, MD, PhD, of the Southern Medical University in China, and colleagues assessed whether time-restricted eating can ameliorate NAFLD more than daily calorie restriction ([NCT03786523](#) and [NCT04988230](#)). The trial recruited 88 people with obesity and fatty liver disease. More than half (56%) were men, the average age was 32 years and the average [body mass index](#) was 32.2.

The researchers compared the impact of time-restricted eating and daily calorie restriction on liver fat content. For a year, all participants went on a calorie-restricted diet with a daily limit of 1,500 to 1,800 calories for men or 1,200 to 1,500 calories for women. Their diets consisted of 40% to 55% carbohydrates, 15% to 20% protein and 20% to 30% fat. Further, half of the study participants were also randomly assigned to time-restricted eating and were asked to consume all their meals between 8 a.m. and 4 p.m. Most participants (92%) completed six months of the intervention and 84% completed the entire 12 months.

The main endpoint was a change in intrahepatic triglyceride (IHTG) content, which was measured by magnetic resonance imaging. Secondary endpoints included changes in body weight, waist circumference, body composition and metabolic characteristics.

There was little difference in outcomes between the two groups. Some 33% of people in the time-restricted eating group and 49% of those in the daily calorie restriction group were able to attain an IHTG content under 5% and experienced NAFLD resolution, but the difference was not statistically significant.

On all other counts, the benefits from both diets were comparable. At the six-month mark, IHTG content decreased by 8.3% in the time-restricted eating group and by 8.1% in the daily calorie restriction group. At the 12-month check, IHTG content was reduced by 6.9% and 7.9%, respectively.

Similar improvements in weight were seen in both groups (8.4 versus 7.8 kilogram reduction). Waist circumference, body fat percentage, and abdominal, visceral and subcutaneous fat all improved significantly in both groups, with no notable differences between them.

Across both groups, liver stiffness dropped comparably. Metabolic factors, including blood pressure, cholesterol and triglyceride levels, fasting glucose levels and insulin resistance also improved in both groups, with no significant between-group differences. The same was true for liver enzyme levels.

“Among adults with obesity and NAFLD, time-restricted eating did not produce additional benefits for reducing IHTG content, body fat and metabolic risk factors compared with daily calorie restriction,” wrote the researchers. “These findings support the importance of caloric intake restriction when adhering to a regimen of time-restricted eating for the management of NAFLD.”

Click here to read the study in [JAMA Network Open](#).

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