People With Fatty Liver Disease May Have More Trouble Losing Weight

Nonetheless, half of people with NAFLD were able to reach a 5% weight loss goal using a very low energy diet.

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Losing weight may be especially difficult for people with fatty liver disease, but many can succeed with an intensive weight loss program, according to a presentation at The Liver Meeting, the annual meeting of the American Association for the Study of Liver Diseases (AASLD), this month in Boston.

Non-alcoholic fatty liver disease (NAFLD) and its more severe form, non-alcoholic steatohepatitis (NASH), are responsible for a growing proportion of advanced liver disease as obesity rates rise worldwide. The buildup of fat in the liver triggers cell death and inflammation, which over time can lead to fibrosis (scarring), cirrhosis and liver cancer.

Fatty liver disease is increasingly recognized as a manifestation of metabolic syndrome, a cluster of conditions that include abdominal obesity, elevated blood glucose and abnormal blood fat levels. There are no effective medical therapies for NAFLD/NASH, and management relies on lifestyle changes including weight loss. A loss of at least 5% of body weight has been shown to improve liver steatosis, or fat accumulation.

“Globally, obesity and NAFLD are an increasing cause of significant morbidity and mortality, with few effective weight loss strategies available,” lead researcher Ann Farrell, MBBS, of St. Vincent’s Hospital in Melbourne, said in an AASLD press release. “As our understanding of the physiology of obesity and weight homeostasis evolves, so too does our approach to the management of weight loss.”

Farrell’s team conducted a retrospective study of obese individuals attending an outpatient weight management clinic at St. Vincent’s Hospital between July 2015 and February 2019.

Among the 211 evaluable participants in the cohort, 113 (53%) were diagnosed with NAFLD, defined as a fatty liver index (FLI) score of 60 or higher. The index is based on body mass index (BMI), waist circumference, GGT liver enzyme levels and triglyceride levels. People with heavy alcohol consumption or other causes of liver disease were excluded.

The median age was 48 years. Participants with NAFLD were more likely than those without the

condition to be men (42% versus 22%, respectively) and to have type 2 diabetes (43% versus 27%). Those with NAFLD had higher BMI and waist circumference; higher levels of GGT and ALT liver enzymes and blood glucose; and greater liver stiffness (an indicator of fibrosis).

Furthermore, people with NAFLD were less likely than those without the condition to report that they exercise (18% versus 34%, respectively) and more likely to have been obese as children (52% versus 33%) and to have a family history of obesity (88% versus 74%).

Study members were put on a ketogenic very low energy diet that contained 800 calories daily for 12 weeks or until they achieved at least 5% weight loss. The diet mainly consisted of meal-replacement drinks, though participants were allowed one small meal each day to improve the chances that they could stick to the program. This very low carbohydrate diet is intended to induce ketosis—a state in which the body gets most of its energy from fat rather than glucose—which reduces hunger.

Prior research has shown that people with type 2 diabetes lose less weight on such a diet than those with normal glucose metabolism, and Farrell's group aimed to determine whether this was also the case for people with fatty liver disease.

After three months on the diet, 49% of people with NAFLD and 67% of those without the condition had achieved at least 5% weight loss. This was a statistically significant difference, meaning it was probably not driven by chance. By six months, however, the rates had risen to 61% and 75%, respectively, and the difference was no longer significant.

People with NAFLD lost less weight than those without. At three months, the overall percentage loss was 4.9% in the NAFLD group and 7.6% in the non-NAFLD group. At six months, the corresponding percentages were 9.0% and 11.3%. However, the difference was not significant at either time point.

After adjusting for other factors, an FLI of 60 or higher—that is, a NAFLD diagnosis—was the only predictor of not achieving at least 5% weight loss.

"We found that a smaller proportion of patients with NAFLD were able to achieve the target 5% loss of total body weight at three months compared to those with a nondiagnostic fatty liver index," Farrell said. "In our further analysis, this difference was no longer evident when the cohort was followed to six months. This suggests that while obese patients with NAFLD can still achieve significant weight loss on a very-low-calorie diet, they may be slower to reach this point."

Click here to read the study abstract.
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