High-Fat Diet, Intermittent Caloric Restriction Linked to Lower Liver Fat

People who drastically reduced calories twice a week also saw reductions in liver stiffness and body weight.

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Diets that emphasize intermittent calorie restriction and higher fat consumption helped reduce both body weight and liver fat in people with non-alcoholic fatty liver disease (NAFLD), according to findings presented at the 2021 International Liver Congress.

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 the buildup of scar tissue (fibrosis), cirrhosis (advanced scarring) and even liver cancer. With no effective approved medical therapies, disease management is dependent on lifestyle changes, such as weight loss and exercise.

Reducing caloric intake is often key to losing weight. But the impact of various popular diets on liver fat in the context of NAFLD is poorly understood. Magnus Holmer, MD, of the Karolinska Institutet in Sweden, and colleagues looked at the impact of two different diets in comparison with a regular diet as a method of tackling NAFLD.

The researchers carried out an open-label, randomized controlled trial that included 74 participants with NAFLD. The study population was split into three groups that consumed one of two particular diets or followed standard dietary advice for 12 weeks. The team then took note of any changes in liver fat as assessed with a liver scan.

For the low-carb, high-fat (LCHF) diet group, the total caloric intake (1,600 calories for women and 1,900 for men) was made up of 10% carbohydrates and 50% to 80% fats; the remaining calories were consumed as protein. For intermittent caloric restriction, the 5:2 diet involved a curtailed intake of fewer than 500 calories for women and fewer than 600 calories for men on two nonconsecutive days every week along with an intake of 2,000 calories for women and 2,400 calories for men for the other days of the week. The standard diet group followed a balanced diet of carbohydrates, proteins and fats consumed as regular meals with smaller portions.

The two specialized diets were found to be more beneficial for lowering liver fat and body weight. The participants lost an average of 7.3 kilograms (16.1 pounds) with the LCHF diet, 7.4 kg (16.3

pounds) with intermittent caloric intake and 2.5 kg (5.5 pounds) with the standard diet.

The LCHF and 5:2 diets similarly lowered liver fat. “The 5:2 and LCHF diets were equally effective for short-term reduction of liver steatosis, body weight and insulin resistance in NAFLD,” said Holmer during his presentation.

Liver stiffness—an indicator of fibrosis—dropped by 1.8 kiloPascals (kPa) and 1.5 kPa in the 5:2 and standard diet groups, respectively, with no real improvement in the LCHF group. While levels of LDL “bad” cholesterol dropped significantly in people on the 5:2 diet, an increase was seen in people on the LCHF diet.

On the whole, individuals with NAFLD can benefit from guided dietary decisions, suggested Holmer. But health care professionals must account for the impact of high-fat diets on cholesterol levels in people with cardiovascular conditions.

“From the strong correlation between the reduction of liver steatosis and body weight, we conclude that it is weight reduction itself and not the composition of macronutrients that is crucial for successful diet treatment of NAFLD,” said Holmer. “We also conclude that close monitoring and support, preferably by a dietitian or another dedicated health care professional, during the intervention was crucial for the efficacy of the diets.”

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