

A Low-Carb Vegan Diet Has Similar Health, Greater Environmental Benefits vs. Vegetarian Diet

A low-carb vegan diet has similar health, and greater environmental benefits vs. a vegetarian diet. A low-carbohydrate vegan diet was associated with weight and BP reductions that were similar to those seen with a vegetarian diet while possessing a greater potential reduction in greenhouse gas emissions, a study reported.

Although low-carbohydrate diets like the Atkins diet have been promoted for weight loss and type 2 diabetes treatment, David Jenkins, MD, PhD, DSc, FRCPC, a professor in the department of nutritional sciences at the University of Toronto, and colleagues wrote in *The American Journal of Clinical Nutrition* that the Atkins diet is “now not generally advocated in its original form because it is a diet high in red meat and saturated fat from animal sources.”

“However, the original low-carbohydrate goals of the diet continue to be popular as the ‘paleo’ and ‘keto’ diets,” they wrote a trend that led them to develop an Atkins-type diet with a vegan design.

Jenkins and colleagues’ hybrid diet included canola-enriched bread and high-protein simulated meat products. They compared the effectiveness of the diet with a vegetarian diet focused on fruits, vegetables, and low-fat dairy products while avoiding meat and snack foods. The researchers also assessed the diets’ potential effects on greenhouse gas emissions by analyzing their environmental impacts on agriculture, food processing, and transportation, which are “increasingly recognized in international dietary guidelines.”

The study included 164 participants with type 2 diabetes, who were randomly assigned to each diet for 3 months. Among them, 70 of 83 participants (84%) completed the low-carbohydrate vegan diet and 68 of 81 (84%) completed the vegetarian diet.

To be eligible, participants needed to have a history of type 2 diabetes for at least 6 months, to be taking a stable dose of antihyperglycemic agents for at least 1 month prior, could not be on insulin therapy, and had HbA1c values between 6.5% and 8.5%. Jenkins and colleagues found that both the low-carbohydrate vegan diet (-5.9 kg; 95% CI: -6.55, -5.28 kg) and vegetarian diet (-5.23 kg; 95% CI: -5.84, -4.62 kg) resulted in similar body weight reductions.

Participants who were assigned to the low-carbohydrate vegan diet had a 4.12 mmHg (95% CI, -6.65 to 1.59) reduction in systolic BP, while participants on the vegetarian diet saw a decrease of 5.91 mmHg (95% CI, -8.45 to -3.38). Diastolic BP decreased 3.54 mmHg (95% CI, -5.29, -1.8) and 4.13 mmHg (95% CI, -5.89, -2.38) in the low-carbohydrate vegan and vegetarian diet groups, respectively.

HbA1c, meanwhile, fell by 0.99% (95% CI, -1.07 to -0.9) in the low-carbohydrate vegan diet group and 0.88% (95% CI, -0.97 to -0.8%) in the vegetarian diet group.

In terms of the environmental impact of each diet, potential greenhouse gas emissions

were significantly lower with the low-carbohydrate vegan diet compared with the vegetarian diet (0.63 kg CO₂; 95% CI, -0.99 to -0.27), according to the researchers. They reported that changes in emission rates correlated with changes in risk factors, such as:

body weight (r = 0.38);
HbA1c (r = 0.23);
LDL cholesterol (r = 0.25);
systolic blood pressure (r = 0.25); and
diastolic blood pressure (r = 0.23).

“We believe the greenhouse gas emissions relation to LDL cholesterol and blood pressure in this trial support the increased use of more plant-based diets for both human and environmental health,” Jenkins and colleagues wrote.

Study limitations that the researchers acknowledged include the overall health status of participants and its short duration of 3 months. Whether the full life cycle analyses were conducted for greenhouse gas emission rates was also unknown.

Jenkins and colleagues concluded that despite noninferiority not having been established, the low-carbohydrate vegan diet appeared to be suitable as a weight reduction diet in people with type 2 diabetes.

References:

[Jenkins D, et al. Am J Clin Nutr. 2022;doi:10.1093/ajcn/nqac203.](https://doi.org/10.1093/ajcn/nqac203)

Low-carb vegan diet shows similar health benefits to vegetarian diet, study shows. <https://www.eurekalert.org/news-releases/966010>. Published Sept. 26, 2022. Accessed Sept. 30, 2022.

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