



News Release

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STANFORD DIET STUDY TIPS SCALE IN FAVOR OF ATKINS PLAN

STANFORD, Calif. — The case for low-carbohydrate diets is gaining weight. Researchers at the Stanford University School of Medicine have completed the largest and longest-ever comparison of four popular diets, and the lowest-carbohydrate Atkins diet came out on top.

Of the more than 300 women in the study, those randomly assigned to follow the Atkins diet for a year not only lost more weight than the other participants, but also experienced the most benefits in terms of cholesterol and blood pressure.

“Many health professionals, including us, have either dismissed the value of very-low-carbohydrate diets for weight loss or been very skeptical of them,” said lead researcher Christopher Gardner, PhD, assistant professor of medicine at the Stanford Prevention Research Center. “But it seems to be a viable alternative for dieters.”

The results will be published in the March 7 issue of the *Journal of the American Medical Association*.

The 311 pre-menopausal, non-diabetic, overweight women in the study were randomly assigned to follow either the Atkins, Zone, LEARN or Ornish diet. Researchers chose the four diets to represent the full spectrum of low- to high-carbohydrate diets.

The Atkins diet, popularized by the 2001 republication of *Dr. Atkins' New Diet Revolution*, represents the lowest carbohydrate diet. The Zone diet, also low-carbohydrate, focuses on a 40:30:30 ratio of carbohydrates to protein to fat, a balance said to minimize fat storage and hunger. The LEARN (Lifestyle, Exercise, Attitudes, Relationships and Nutrition) diet follows national guidelines reflected in the U.S. Department of Agriculture's food pyramid—low in fat and high in carbohydrates. The Ornish diet, based on bestseller *Eat More, Weigh Less* by Dean Ornish, is very high in carbohydrates and extremely low in fat.

Study participants in all four groups attended weekly diet classes for the first eight weeks of the study and each received a book outlining the specific diet to which they were assigned. For the remaining 10 months of the study, the women's weight and metabolism were regularly checked, and random phone calls monitored what they were eating.

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One of the strengths of the \$2 million study was that this setup mimicked real-world conditions, Gardner said. Women in the study had to prepare or buy all their own meals, and not everyone followed the diets exactly as the books laid out, just as in real life.

At the end of a year, the 77 women assigned to the Atkins group had lost an average of 10.4 pounds. Those assigned to LEARN lost 5.7 pounds, the Ornish followers lost 4.8 pounds and women on the Zone lost 3.5 pounds, on average. In all four groups, however, some participants lost up to 30 pounds.

After 12 months, women following the Atkins diet, relative to at least one of the other groups, had larger decreases in body mass index, triglycerides and blood pressure; their high-density lipoprotein, the good kind of cholesterol, increased more than the women on the other diets.

Gardner has several ideas for why the Atkins diet had the overall best results. The first is the simplicity of the diet. “It’s a very simple message,” he said. “Get rid of all refined carbohydrates to lose weight.” This message directly targets a major concern with the American diet right now—the increasing consumption of refined sugars in many forms, such as high-fructose corn syrup.

Beyond pinpointing this high sugar intake, the Atkins diet does the best at encouraging people to drink more water, said Gardner. And when people replace sweetened beverages with water, they don’t generally eat more food; they simply consume fewer calories over the course of the day.

The third theory Gardner offered as to why the Atkins diet was more successful is that it is not just a low-carbohydrate diet, but also a higher protein diet. “Protein is more satiating than carbohydrates or fats, which may have helped those in the Atkins group to eat less without feeling hungry,” he said.

Although the Atkins group led in terms of the average number of pounds lost, this group also gained back more weight in the second half of the study than those in the three other groups. Gardner also noted that the women in the Atkins group had lost an average of almost 13 pounds after six months, but ended the one-year period with a final overall average loss of 10 pounds.

Though critics of low-carbohydrate diets say that such diets can lead to health problems, none of the factors measured in this study was worse for the Atkins group. Gardner cautions, however, that there are potential long-term health problems that could not have been identified in a 12-month study. Also, several basic vitamins and minerals can be difficult to get in adequate amounts from a very-low-carbohydrate diet.

In the long run, Gardner hopes to use the large data set generated in this study to investigate why different diets might work better for different people. “We’re trying to see if we can learn more about the factors that predict success and failure with weight loss,” he said.

Regardless of what new insights are revealed, Gardner said the message he hopes people take from the study is the importance of eliminating from their diet, as much as possible, refined carbohydrates such as white bread and soda.

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Gardner's co-authors were Alexandre Kiazand, MD, postdoctoral scholar; Sofiya Alhassan, PhD, postdoctoral scholar; Soowon Kim, PhD, data analyst; Randall Stafford, MD, PhD, associate professor of medicine; Raymond Balise, PhD, statistical programmer; Helena Kraemer, PhD, professor of biostatistics; and Abby King, PhD, professor of health research and policy and of medicine.

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