

Saving carbs for dinnertime might help control weight

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Experimental diet offered benefits in small study, but experts say it's too soon to say it works.

(HealthDay)—When it comes to eating pasta, bread and potatoes, timing could be everything.

Israeli researchers found in a small study that saving most carbohydrates for dinnertime may help keep people from feeling hungry the following day, supporting weight-loss efforts for those who are obese.

The study authors were curious after reading research on Muslims during Ramadan, an annual month of religious fasting. During this period, Muslims fast during the day and then eat a high-carbohydrate evening meal.

Previous studies have found that the concentration of carbohydrates consumed at the end of the day modifies the typical day-night pattern of

leptin, a hormone responsible for satiety, or feeling full. Muslims are better able to adhere to their daytime fast by pushing most carbohydrates to dinner, the study authors said.

"We believe low [leptin levels](#) during daytime are remnants of evolution when prehistoric man had to wake up and look for food," explained Zecharia Madar, professor emeritus at the Institute of Biochemistry, Food Science and Nutrition at Hebrew University in Tel Aviv. "Today, as food is highly available, this mechanism is unnecessary, and an easy way to obesity."

The researchers were also interested in the hormone ghrelin and the protein adiponectin. Ghrelin is produced in the stomach and usually increases before meals to stimulate eating. Considered the "hunger hormone," it seems to work against [dieters](#) because it tends to peak after 1 p.m. (causing afternoon snacking) and is at its lowest level during the night. Adiponectin plays a role in the development of [insulin resistance](#)—which can be a forerunner to diabetes—and hardening of the arteries.

The research was published in two parts, in the October 2011 issue of *Obesity* and in the August online issue of *Nutrition, Metabolism & Cardiovascular Diseases*.

The study involved 63 male and female police officers aged 25 to 55, who had a body mass index—a measure of body fat based on height and weight—greater than 30, which is considered obese.

Participants were randomly assigned to one of two weight-loss diets. One held most of the carbohydrates until dinner and the other distributed carbohydrates evenly throughout the day. None of the participants had been diagnosed with a disease or were pregnant, and none had been on a diet regimen for at least a year before the study.

After 180 days on the diets, the researchers found that those on the dinnertime [carbohydrate diet](#) had hormonal changes that reduced hunger. They also showed improvements in weight, waist circumference and body fat, and better blood sugar and fat levels.

Might the special carbohydrate diet offer benefits for people of normal weight? Madar said he doesn't know. "It would have been interesting to find out if our diet would be a good choice for normal-weight subjects with high glucose and pathological lipid profiles," he said.

But experts urged caution in interpreting the study.

"We know for sure that leptin and [ghrelin](#) play roles in satiety, but the research doesn't completely demonstrate in a free-living population how you change these hormones and what is the impact," said Connie Diekman, director of university nutrition at Washington University in St. Louis.

Diekman also was concerned that at the study's start there was a weight difference between the two groups of participants, which she said could contribute to the difference in final results. In addition, she said, there were notable average differences in waist circumference between the two groups.

Amy Jamieson-Petonic, program manager at Cleveland Clinic Wellness, said she wonders about the effect of night-shift work, because the participants were all police, and sleep issues related to shift work have been associated with weight problems. "We don't know what kind of sleep problems these people were having," she noted.

Jamieson-Petonic also questioned whether the lab data for the research was complete enough to make a reliable conclusion. Of the 63 participants, lab results were reported for only 39 individuals.

For most people, the toughest issue in dieting is maintaining weight loss over time. Jamieson-Petonic said the fact that the data for this study was reported after just six months fails to prove the diet is effective. "The challenge is keeping the weight off," she said. "I'd love to see these people one year out, or 18 months out. That's the challenge my clients have. And I'd also like to see the lab values after a year."

For her part, Diekman said it's clearly too soon for people to switch to a dinnertime carbohydrate diet. "From my perspective, measuring calories in and calories expended gives most people the most benefit based on what we know now."

More information: To learn more about healthy eating, visit the [U.S. Centers for Disease Control and Prevention](https://www.cdc.gov/).

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