

Breakfast Like a King: 2 Large Meals Benefit Diabetes

Lisa Nainggolan | May 19, 2014

Eating just 2 large meals a day, consisting of breakfast and lunch, could be the best way for people with type 2 diabetes to help control their weight and their blood sugar, new research suggests.

"We've turned the common wisdom, that eating little and often is best, upside down," lead author of the study Hana Kahleová, MD, from the Diabetes Center, Prague, the Czech Republic, told *Medscape Medical News*.

"Mostly it has been recommended for people with type 2 diabetes to eat 5 or 6 small meals a day," she explained, "but in Western societies at least, it turns out that snacks are not healthy, they are high in sugar and fat. So a regimen of frequent eating hasn't resulted in better control."

Recent studies, however, including some in animals and some observational trials, have begun to suggest that eating fewer, but larger, meals may be more beneficial, she noted. "We've taken the pieces of scientific evidence and put them together," she commented, noting that her own work is the first interventional study to investigate this approach.

In the crossover trial, published online May 15 in *Diabetologia*, when patients were eating a large breakfast and lunch but skipping dinner, they lost more weight on average and had less hepatic fat and lower blood glucose, fasting insulin, and fasting glucagon than those who were consuming 6 smaller meals. The 2 regimens both contained exactly the same number of calories per day.

"This is a way that even patients with type 2 diabetes can fast safely for a few hours every day," Dr Kahleová noted.

However, she cautioned that the trial was small, involving only 54 patients, "and so larger scale, longer-term studies are needed" to confirm the findings.

Two Meals per Day Regimen Lowered Glucagon

The research involved 29 men and 25 women who were being treated with oral type 2 diabetes drugs, aged 30 to 70 years, with body mass index (BMI) between 27 and 50 kg/m² and HbA_{1c} in the range of 6% to 11.8% (42–105 mmol/mol).

They were asked to follow 1 of 2 regimens of a restricted-calorie diet, each containing 500 calories less than the recommended daily amount; on average, the participants consumed 1700 calories per day.

One group of 27 started on the first regimen, six small meals a day for 12 weeks, while the remaining 27 had 2 large meals, breakfast and lunch, each day for 12 weeks. They then switched to the other regimen. The diet in both groups had the same macronutrient and calorie content.

Weight loss was more pronounced in those on the 2-large-meal regimen, who shed 1.4 kg more, on average, than those eating 6 smaller portions (-3.7 kg vs -2.3 kg, $P < .001$).

Hepatic fat content decreased in response to both regimens, but more so among those consuming breakfast and lunch only (-0.04%) than for those eating little and more often (-0.03%, $P = .009$ for the difference).

Fasting plasma glucose and C-peptide levels also fell in both groups, but again, these reductions were both more pronounced when just 2 meals a day were being eaten ($P = .004$ and $.04$, respectively).

And fasting plasma glucagon also fell with the regimen of 2 large meals a day, whereas it increased among those consuming 6 small meals each day.

This is an important finding, said Dr Kahleová, because "it is not easy to affect glucagon," she observed, noting that even most type 2 diabetes drugs, with the exception of the incretins, do not have any influence on glucagon levels.

New Approaches: Look at Frequency and Timing of Meals

"These results suggest that, for type 2 diabetic patients on a calorie-restricted diet, eating larger breakfasts and lunches may be more beneficial than 6 smaller meals during the day," she and her colleagues say.

"Novel therapeutic strategies should incorporate not only the energy and macronutrient content but also the frequency and timing of food," they conclude.

Dr Kahleová stressed to *Medscape Medical News* that perhaps a more practical approach should be to emphasize to type 2 diabetes patients that "3 meals a day is enough; breakfast should be the largest meal of the day, and dinner may be light."

"The old saying, 'Eat breakfast like a king, lunch like a prince, and dine like a pauper,' may indeed hold true," she concluded.

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