

# Low glycemic diet better for glycemic control of type 2 diabetes than whole grains

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(PhysOrg.com) -- Low glycemic foods - beans, peas, lentils, pasta, rice boiled briefly and breads like pumpernickel and flaxseed - do a better job of managing glycemic control for type 2 diabetes and risk factors for coronary heart disease than high-fibre diets, including whole grain breads, crackers and breakfast cereals.

The study, Effect of a Low-Glycemic Index or a High-Cereal Fiber Diet on Type-2 Diabetes: A Randomized Trial, is published in the Dec. 17 issue of JAMA (Journal of the American Medical Association). Professor David Jenkins of nutritional studies and a doctor at St. Michael's Hospital is the lead author.

"At a time when the incidence of type 2 diabetes is likely to double in the next 20 years, any information that refines how we can manage this disease better is welcome. Our study shows that a low GI diet can also minimize the risk factors associated with cardiovascular disease. It does this better than a diet high in fibre, but with a higher glycemic index," Jenkins said. "Pharmaceuticals used to control type 2 diabetes have not shown the expected benefits in terms of reducing cardiovascular disease. Our hope is that the low GI diet may help all the complications of diabetes."

The study assessed the effects of a low glycemic index diet versus a high cereal fibre diet on glycemic control and cardiovascular risk factors for 210 patients with type 2 diabetes. The participants, who were treated with antihyperglycemic medications, were randomly assigned to receive

one of the two diet treatments for six months.

In the low glycemic index diet, the following foods were emphasized: beans, peas, lentils, pasta, rice boiled briefly and low glycemic index breads (including pumpernickel, rye pita and quinoa bread with flaxseed) and breakfast cereals (including large flake oatmeal and oat bran). In the high cereal fibre diet, participants were advised to take the "brown" option (whole grain breads; whole grain breakfast cereals; brown rice; potatoes with skins; and whole wheat bread, crackers and breakfast cereals). Three servings of fruit and five servings of vegetables were encouraged on both treatments but temperate climate fruit (apples, pears, oranges and berries) was advised on the low GI diet.

The researchers found that hemoglobin A1c (HbA1c; a substance in red blood cells tested to measure the blood glucose level) decreased by -0.50 per cent absolute HbA1c units in the low glycemic index diet compared with -0.18 per cent absolute HbA1c units in the high cereal fibre diet. Significant treatment effects were observed for high-density lipoprotein cholesterol (HDL-C) and the low-density lipoprotein cholesterol (LDL-C): HDL-C ratio. HDL-C increased in the low glycemic index diet group by 1.7 mg/dL and decreased by -0.2 mg/dL in the high cereal fibre diet group. The LDL-C:HDL-C ratio showed a greater reduction in the low glycemic index diet group compared with the high cereal fibre diet group.

Provided by University of Toronto

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