

# RESEARCH ROUNDUP



It's our goal here at *Good Health Lifestyles* to bring you the latest in cutting-edge research for a variety of common health issues. Because we believe that knowledge is power—especially when it comes to health—we are digging deeper into the exciting new research from leading medical journals and breaking it down to help you get the most from today's science.

## Berberine Balances Blood Sugar

### THE STUDY ABSTRACT:

#### Efficacy of berberine in patients with type 2 diabetes mellitus.

Berberine has been shown to regulate glucose and lipid metabolism in vitro and in vivo. This pilot study was to determine the efficacy and safety of berberine in the treatment of type 2 diabetes mellitus patients. In study A, 36 adults with newly diagnosed type 2 diabetes mellitus were randomly assigned to treatment with berberine or metformin (0.5 g 3 times a day) in a 3-month trial. The hypoglycemic effect of berberine was similar to that of metformin. Significant decreases in hemoglobin A1C (from 9.5%±0.5% to 7.5%±0.4%,  $P<.01$ ), fasting blood glucose (from 10.6±0.9 mmol/L to 6.9±0.5 mmol/L,  $P<.01$ ), postprandial blood glucose (from 19.8±1.7 to 11.1±0.9 mmol/L,  $P<.01$ ), and plasma triglycerides (from 1.13±0.13 to 0.89±0.03 mmol/L,  $P<.05$ ) were observed in the berberine group. In study B, 48 adults with poorly controlled type 2 diabetes mellitus were treated supplemented

with berberine in a 3-month trial. Berberine acted by lowering fasting blood glucose and postprandial blood glucose from one week to the end of the trial. Hemoglobin A1C decreased from 8.1%±0.2% to 7.3%±0.3% ( $P<.001$ ). Fasting plasma insulin and homeostasis model assessment of insulin resistance index were reduced by 28.1% and 44.7% ( $P<.001$ ), respectively. Total cholesterol and low-density lipoprotein cholesterol were decreased significantly as well. During the trial, 20 (34.5%) patients experienced transient gastrointestinal adverse effects. Functional liver or kidney damages were not observed for all patients. In conclusion, this pilot study indicates that berberine is a potent oral hypoglycemic agent with beneficial effects on lipid metabolism.

Source: Yin J, Xing H, Ye J. *Metabolism*. 2008;57(5):712-717.

### WHAT IT MEANS TO YOU:

If you have elevated fasting glucose—a higher than normal amount of sugar in your bloodstream even when you haven't been eating—you could be on the track for type 2 diabetes. High blood sugar is considered fasting blood glucose that is in the 100 to 125 mg/dL range, which is considered a pre-diabetic level. When fasting blood glucose numbers are higher than that, you have diabetes.

Fortunately, a natural compound called berberine can help you return your blood sugar numbers to a healthy range.

In this clinical study, berberine lowered fasting and postprandial (after eating) glucose levels from the beginning of the trial to the end of the three-month study. It lowered A1C levels from 8.1 percent to 7.3 percent and reduced fasting plasma insulin by 28 percent. Berberine also lowered the insulin resistance index by 44 percent. Triglyceride levels dropped as well. The results were similar to the group treated with metformin, a commonly used prescription drug for type 2 diabetes.

One of the ways berberine can help reduce overall blood sugar levels is by stimulating glycolysis—the process of releasing the energy from sugars. That means the sugar is used for fuel by the mitochondria (a cell's “energy engine”) rather than overloading the bloodstream or being converted into triglycerides. Additionally, berberine may inhibit alpha-glucosidase, an enzyme that slows the absorption of carbohydrates in the digestive system. ■

