ConsumerLab.com Answers

Question:

Which supplements can help lower or control my blood sugar?

Answer:

Many different supplements may help lower or control blood sugar in people with prediabetes or type 2 diabetes who experience hyperglycemia (when blood glucose rises higher than normal). These supplements are discussed below. More details about each, including dosage, drug interactions, potential side effects, and ConsumerLab.com's reviews of products on the market, can be found by clicking on the links.

Due to the seriousness of hyperglycemia, it is important to consult with your physician regarding use of these supplements.

Cinnamon supplements may modestly improve blood sugar in people with type 2 diabetes whose blood sugar is not well controlled with medication. In addition, one small study found that a branded cinnamon extract reduced fasting blood sugar by an average of about 10 mg/dL in prediabetic men and women with metabolic syndrome. Keep in mind, however, that only certain varieties of cinnamon have been shown to have this effect, and long-term safety studies have not been conducted.

Curcumin (from turmeric) may improve blood sugar levels, according to preliminary studies, and one study found curcumin to dramatically lower the chances of prediabetes in middle-aged, slightly overweight men and women with somewhat higher than normal blood sugar levels.

Alpha lipoic acid may improve insulin sensitivity and blood sugar control in people with type 2 diabetes, although it may only slightly reduce levels of glycosylated hemoglobin (HbA1c).

Chromium picolinate may help some people with type 2 diabetes decrease fasting blood glucose levels as well as levels of insulin and glycosylated hemoglobin (HbA1c). However, be aware that high doses may ***worsen* insulin sensitivity** in healthy people who are not obese or diabetic.

Having adequate blood levels of **vitamin D** may reduce the risk of insulin resistance in people who are obese. There is some evidence that a certain blood level of vitamin D is needed for normal glucose metabolism in women who are overweight and obese (but not diabetic)

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In healthy people, consuming a moderate amount of **olive oil** with a meal has been shown to reduce increases in blood sugar after the meal compared to the same meal consumed with corn oil. In people with type 1 or type 2 diabetes, olive oil may improve glucose metabolism.

Increasing **dietary fiber**, especially insoluble fiber from cereal and grains, is associated with a reduced risk of diabetes and has been shown to reduce fasting blood glucose and modestly lower HbA1c in people with type 2 diabetes (Martin, J Nutr 2008; Post,J Am Board Fam Med 2012). In people with type 1 diabetes, 50 grams of dietary fiber per day has been shown to significantly improve blood sugar control and reduce hypoglycemic events (Giacco, Diabetes Care 2000). The American Dietetic Association states that "diets providing 30 to 50 g fiber per day from whole food sources consistently produce lower serum glucose levels compared to a low-fiber diet. Fiber supplements providing doses of 10 to 29 g/day may have some benefit in terms of glycemic control." (Slavin, J Am Diet Assoc 2008). Although ConsumerLab.com has not tested fiber products, we have produced a **webinar** about that provides more information.

Ginseng, both American and Korean Red ginseng (from *Panax ginseng*), may reduce blood sugar levels in people with diabetes, according to preliminary research.

Silymarin, a component of **milk thistle**, may decrease blood sugar and hemoglobin A1c in people with type 2 diabetes, and reduce insulin resistance in people with coexisting diabetes and alcoholic cirrhosis.

Inulin, a type of **prebiotic**, may improve measures of blood sugar control in women with type 2 diabetes, although it did not improve blood sugar levels or insulin resistance in a study of prediabetic men and women.

Berberine (a compound found in plants such as **barberry**, **Oregon grape** and **goldenseal**) may reduce blood sugar levels in people with metabolic syndrome or type 2 diabetes, according to a few small studies.

Fenugreek may help to lower blood sugar, according to preliminary studies, and one study found fenugreek extract to significantly improve some measures of blood sugar control and insulin response in people with type 2 diabetes.

D-ribose, often promoted for energy or sports performance, may also lower blood sugar levels (Fenstad, Internet J Nutr Wellness 2007).

Gymnema sylvestre may decrease average blood sugar levels in people with type 1 or type 2 diabetes, according to two small, preliminary studies using 400 mg of a standardized extract (GS4 from Sabinsa, standardized to 25% gymnemic acid) for six months or more (Baskaran, J Ethnopharmacol 1990; Shanmugasundaram, J Ethnopharmacol 1990).

White mulberry (*Moruns alba* or *Morus indica*) has been traditionally used in Asia to help treat type 2 diabetes, and there is some preliminary evidence to support this use. Mulberry leaf extract (species not given) may lessen increases in blood sugar after ingestion of table sugar in healthy people and people with type 2 diabetes (Mudra, Diabetes Care 2007). Among people with type 2 diabetes, taking 1 gram of powdered white mulberry leaf three times daily (after breakfast, lunch and dinner) for four weeks was found to lower fasting blood sugar by 27%, while taking 5 mg of the anti-diabetes drug glibenclamide lowered fasting blood sugar by only 8% (Andallu, Clin Chim Acta 2001).

There is mixed evidence as to whether **CoQ10** may lower blood sugar. To be safe, people with diabetes or who take medication to lower blood sugar **should consult a physician** before using.

Preliminary evidence suggests certain other supplements, including **aloe**, **ashwagandha**, **ginkgo**, **green coffee bean extract**, **glucosamine**, **black cohosh**, **rhodiola**, **reishi mushroom** and **tart cherry juice** may lower blood sugar. While there is not enough clinical research to support the use of these supplements for this purpose, it's important to keep this in mind, as they could enhance the blood sugar lowering effect of other supplements or medications you may be taking.

There are a few supplements which may *worsen* blood sugar control or insulin sensitivity in certain people: excessive amounts of **niacin** may elevate blood sugar levels, and prescription **digestive enzymes** may cause an increase or decrease in blood sugar levels in people with exocrine pancreatic insufficiency. **CLA (conjugated linoleic acid)**, a popular supplement for slimming, may worsen blood sugar control in diabetics and in obese people without diabetes.

Although fish oil does not appear to adversely affect blood sugar levels in people with diabetes, one study reported that a large daily dose of **krill oil** (providing a modest amount of EPA and DHA) reduced insulin sensitivity in overweight, middle-aged men by about 27% -- which could potentially increase the risk of diabetes.

Also note that high doses of **vitamin C** may increase blood sugar or interfere with certain blood sugar tests.

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