

Supplements to help manage Blood Sugar Health

Bitter Melon

COMMON NAME: Bitter melon, bitter gourd, bitter squash, bitter cucumber

SCIENTIFIC NAME: *Mormordica charantia*

NOT RECOMMENDED - HIGH RISK

LEVELS OF EVIDENCE



Recommended:

Several well-designed studies in humans have shown positive benefit. Our team is confident about its therapeutic potential.



Recommended with Caution:

Preliminary studies suggest some benefit. Future trials are needed before we can make a stronger recommendation.



Not Recommended - Evidence:

Our team does not recommend this product because clinical trials to date suggest little or no benefit.



Not Recommended – High Risk:

Our team recommends against using this product because clinical trials to date suggest substantial risk greater than the benefit.

Evaluated Benefits

No evidence of efficacy or not indicated

Source

Bitter melon, a climbing perennial that is characterized by elongated, warty, fruit-like gourds or cucumbers, is native to the tropical belt. It is nutritionally rich in vitamins A, C, and beta-carotene, as well as minerals such as iron, phosphorus, and potassium. Its fruit, fruit juice, or dried powder preparation has been widely used as traditional medicine for lowering blood glucose levels.

Indications/Population

Lowering of blood sugar levels

Patients with diabetes mellitus type 2 and metabolic syndrome

Mechanism of Action

Bitter melon has been found to promote enhancement of beta-cell integrity, promotion of insulin release, insulin-like activity, preserve pancreatic islet beta-cells, increase tissue glucose uptake, decrease glucose absorption, increase liver and muscle glycogen storage, depress hepatic gluconeogenesis, and improve the activity of key enzymes of the glycolytic pathway. The latter include the inhibition of glucose transportation at the brush border of the small intestine.

The active constituents of bitter melon include charantin, vicine, and polypeptide-p, which is termed plant insulin. These are believed to be the stimulants of insulin secretion in humans and promote the alteration of hepatic glucose metabolism.

Side Effects

The following has been reported:

- It is very bitter
- Impaired fertility has been observed
- Liver inflammation
- Spontaneous abortion
- Mild diarrhea and abdominal pain, which subside after discontinuing use
- Headache

Dosing

Dried powder of bitter melon's fruit pulp 2,000 mg/day

Drug Interactions/Cautions

- Augments hypoglycemics, therefore hypoglycemia
- The seeds and rind are toxic and may impede fertility
- Caution if there is an allergy to members of the Curcubitaceae (gourd or melon) family, including Persian melon, honeydew, casaba, muskmelon, and cantaloupe

Notes

- Blood sugar reduction was observed only when *M. charantia* was consumed in raw or juice form.
- The presence of vicine, a favism-inducing glycosidic compound, in the seeds may put patients with glucose-6-phosphatase deficiency at risk.
- The abortifacient effects of raw fruits have cast doubt on the safety of their consumption during pregnancy.
- It is suggested that the fresh fruit may be more efficacious in treatment.

Reference

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