

GYMNEMA SYLVESTRE



Gymnema sylvestre (Asclepiadaceae), popularly known as "gurmar" for its distinct property as antidiabetic, is a reputed herb in the Ayurvedic system of medicine. The phytoconstituents responsible for Blood sugar suppression activity includes triterpene saponins known as gymnemic acids, Gymnemasaponins, and a polypeptide, gurmarin.

Gymnemagenin

Me Me OH OH OH HO OH

Gymnemic acid

Gymnemasapponins



Medicinal Uses:



The possible mechanisms by which the leaves and especially Gymnemic acids from G. sylvestre exert its hypoglycemic effects are:

- It increases secretion of insulin
- It promotes regeneration of islet cells
- It increases utilization of glucose: It is shown increase the activities of enzymes responsible for utilization of glucose by insulindependent pathways, an increase phosphorylase activity. decrease in gluconeogenic sorbitol enzymes and dehydrogenase.
- ❖ It causes inhibition of glucose absorption from intestine, the exact action being unknown. It could be involved in one or more mechanisms.

Clinical Studies:

- > A randomized. double-blind. placebocontrolled clinical trial was carried out in 24 patients with a diagnosis of metabolic syndrome in accordance with the modify International Diabetes Federation criteria. The patients received 300 mg capsules of Gymnema sylvestre or placebo, two times daily before breakfast and dinner for 90 days. Before and after intervention the investigators evaluated: various parameters, this study shows that Gymnema sylvestre has an excellent potential for the prevention and treatment of metabolic syndrome [1].
- ➤ A study was conducted to study the effect of gurmar leaf powder intervention on the blood glucose level of 20 non-insulin dependent diabetic women, (40-60) Subjects selected were taking no oral hypoglycemic drug (i.e. newly diagnosed) and were willing to participate in the intervention study. Everyday 6 gm of gurmar leaf powder was used to intervene the subjects in three divided doses.
 - Results of intervention revealed that gurmar leaf powder had positive and encouraging effects over blood glucose levels. No adverse effect was observed on the health status of the subjects [2].



Specifications

Botanical/Scientific name Gymnema sylvestre

CAS No. 90045-47-9

Description Green to greenish brown powder

Identification TLC

Heavy metal Not more than 20 ppm
Arsenic Not more than 1 ppm
Lead Not more than 10 ppm

Content of Gymnemic acids 25,75 %

Microbiological profile As per JPN Food Regulation

Reference:

- 1. Baskaran K, Kizar Ahamath B, Radha Shanmugasundaram K, Shanmugasundaram ER. Antidiabetic effect of a leaf extract from Gymnema sylvestre in non-insulin-dependent diabetes mellitus patients. J Ethnopharmacol. 1990 Oct;30(3):295-300.
- 2. Paliwal, R.; Kathori, S.; Upadhyay, B. Effect of Gurmar (Gymnema sylvestre) powder intervention on the blood glucose levels among diabetics. Ethno-Med., v.3, p.133-135, 2009.



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