

GYMNEMA TABLETS

YOUR SOLUTION FOR DIABETES

PREVALENCE OF DIABETES

Diabetes, with its attendant acute and long-term complications, and the myriad of disorders associated with it, is a major health hazard. To put it simply, it has crossed the dividing line in which it is a problem associated with individuals, no matter how large this number may be, but now has become a very large public health problem, growing astronomically year after year.

WHO reported using the epidemiological information that the estimated global burden of Diabetes was 135 million in 1995, with the number reaching 299 million by the year 2025. The prevalence of diabetes for all age groups worldwide was estimated to be 2.8% in 2000 and 4.4% in 2030. The total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030.

IN SOUTH ASIA

The prevalence of diabetes and its adverse health effects has risen more rapidly in South Asia than in any other large region of the world. **Projections for 2020, based on modeled estimates by WHO, show a marked escalation of diabetes related burden in South Asia.** The number of people with diabetes is expected to rise by 195% in India during 1995-2025 to reach 57.2 million in 2025. South Asians have been observed to have a high risk of developing diabetes at lower levels of body mass index than Western populations and the urban population in developing countries is projected to double between 2000 and 2030. In **Sri Lanka** the 1999 census report records diabetes prevalence as 8% in rural areas and 12% in urban areas equivalent current rates for **Nepal** have been reported as 3% and 15% respectively.

Diabetes is a consequence of abnormalities in the blood levels of insulin, the hormone that converts blood sugar into energy. Adult-onset diabetes is caused by the body's inability to adequately process insulin. Today it is known as Type II diabetes, non-insulin-dependent diabetes mellitus (NIDDM), and stable diabetes. Diabetes is associated with long-term complications that affect almost every part of the body leading to blindness, heart and blood vessel disease, stroke, kidney failure, amputations, and nerve

damage. Uncontrolled diabetes can complicate pregnancy, and birth defects are more common in babies born to women with diabetes. Diabetes can be rapidly fatal.

In order to overcome the effects and complications of Diabetes it is extremely essential to consume herbal-based food supplements that would help in rejuvenating the body from complex ailments. Gymnema tablets are one such herbal supplement that helps to overcome the complications and strains of Diabetes.

RELEVANT FUNDAMENTAL KNOWLEDGE

The Latin name *Gymnema Sylvestre* means "sugar destroyer" and is considered as herbal remedy for high blood sugar. Traditionally it was recommended for stomach problems, constipation, water retention and liver disease although modern research centers around its use for type II diabetes. *Gymnema sylvestre* grows in South-East Asia. Its therapeutic role in relation to diabetes mellitus, rheumatic arthritis, and gout had been well known for a long time. **Extracts of this plant are widely used by the Australian, Japanese, Vietnamese and Indian folk medicine.** However, gymnema is best known for its benefits in diabetes. ***Gymnema Sylvestre* extract may help to maintain healthy blood sugar levels when used as part of your diet.** *Gymnema* is acrid, antiinflammatory, anodyne (serving to ease pain), liver tonic, emetic, and diuretic (tending to increase the excretion of urine). It is useful in hepatosplenomegaly (coincident enlargement of the liver and spleen), dyspepsia, constipation, jaundice, halminthiasis (infestation with or disease caused by parasitic worms), cardiopathy (any disease of the heart), amenorrhoea (abnormal absence or suppression of menstruation). ***Gymnema* contains gymnemic acid, saponins, gymnemasins A, B, C, D and flavonoid compounds including kaempferol and quercetin.** *Gymnema* leaves have antibacterial and antiviral compounds that are necessary to prevent infections that lead to amputations in diabetics.

***Gymnema* has been used traditionally in India for centuries and has been shown in research to support healthy glucose metabolism by mediation of insulin release and activity and enhancement of healthy pancreatic function.** A controlled study on insulin-dependent diabetics found that a water-soluble *Gymnema* extract (400 mg/day corresponding to about 8 gm of starting dried herb) reduced insulin requirements (by about 50%). Over the duration of treatment *Gymnema* lowered fasting mean blood glucose (by about 35%), glycosylated haemoglobin and glycosylated plasma protein

levels from baseline values. Cholesterol was significantly reduced and brought to near normal levels. Triglycerides, free fatty acids and serum amylase were also lowered. The treatment period ranged from 6-30 months. The significant decrease in glycosylated haemoglobin occurred after 6-8 months of *Gymnema* treatment but remained significantly higher than normal values. None of these reductions were observed in control patients on insulin therapy alone who were studied over a period of 10-12 months. The authors suggested that *Gymnema* enhanced endogenous insulin production, possibly by pancreatic regeneration.

Researchers at the University of Madras in the early 1990s found that high doses (40 gm of dried herb daily) of *gymnema* extracts might actually help **to repair or regenerate the pancreas's beta cells**, which play a crucial role in the production and secretion of insulin. It is possible that *Gymnema* will even **prompt the pancreas to develop more beta cells -- the source of insulin**. The acids present in *Gymnema* seem to **decrease the amounts of sugar that are absorbed** from foods. As a result, blood sugar levels may not increase as much after meals. Secondly, it may also make body cells more responsive to the insulin that is available.

Rodent studies indicate that gymnema may have the capacity to maintain healthy cholesterol and triglyceride levels. Research studies suggest that people with diabetes have a higher risk of having heart attacks. *Gymnema* blocks the absorption of dietary fats into the bloodstream. Possibly, more fats are then eliminated instead of being stored. Some individuals taking *gymnema sylvestre* for diabetes have also seen a reduction in cholesterol. Researchers at Georgetown University compared the effects of chromium, vanadium, and *gymnema* in experimental rats experiencing sugar-induced hypertension. Unlike the trace minerals, the herb **reduced blood cholesterol**.

Chromium picolinate, present in the formula, is an essential trace mineral that helps to regulate insulin function. Chromium is an essential element required for normal carbohydrate and lipid metabolism. The proposed mechanism of action of chromium in the regulation of insulin is related to an increase in the number and sensitivity of insulin receptors on cell membranes. Among people with diabetes, the response to chromium supplementation is related to the degree of glucose intolerance.

TIENS SUPPLIES STANDARDIZED SUPPLEMENTS

In human studies, the most common doses of *gymnema sylvestre* used for blood sugar control were 400 mg to 600 mg per day. *Gymnema sylvestre* is commonly added to many different combination herbal products, but the majority of studies used GS4, a standardized product that contains only *gymnema sylvestre*. (Standardization by the manufacturer should assure the same amount of active ingredient in every batch of the commercial preparation. Standardization of herbal products is not required by the U.S. Food and Drug Administration (FDA), so not every product will contain the same amounts of active ingredients. However, Tiens has formulated the tablets using a standardized *Gymnema* extract with standardized active ingredient levels.

EYES

Diabetic Retinopathy is a common complication in Diabetes. In Diabetic retinopathy, arteries in the retina become weakened and leak, forming small, dot-like hemorrhages. These leaking vessels often lead to swelling or edema in the retina and decreased vision.

SAFETY AND CAUTION

A one-year study on rodents given gymnema did not show any toxicity. Taking gymnema may require dosage adjustments of other anti-diabetic drugs. *Gymnema* should not be regarded as a substitute for other medications. If people diagnosed with Type I or Type II diabetes are taking insulin to control their blood sugar, they cannot replace the insulin with gymnema. Gymnema could interact with medications taken to reduce blood sugar levels. The herbal remedy could cause the drugs to work better, resulting in hypoglycemia.

CONCLUSION

Type 2 diabetes has become a global epidemic. Modern medicines, despite offering a variety of effective treatment options, can have several adverse effects. From ancient times, some of **the herbal preparations have been used in the treatment of diabetes. Mechanisms such as the stimulating or regenerating effect on beta cells or extra pancreatic effects are proposed for the hypoglycemic action of these herbs.** Gymnema tablets, which are formulated and manufactured with high caution having the benefits of anti-diabetic effects, have preventive effects on Diabetes. Taking a nutritional diabetic supplement formulated especially for diabetics that contain vitamins, minerals, and herbs that work synergistically in a scientifically valid formula will help you keep your **blood sugars right** by reducing the complications and preventing them. Because diabetes usually is not recognized until significant damage has occurred to the pancreas cells responsible for producing insulin, *Gymnema* extract may be of use to anyone concerned about preventing the development of diabetes, as well as elderly persons who are at high risk for developing diabetes.

EFFICACIES

- Reduces sweet craving
- Promotes regeneration of beta cells
- Helps insulin release by pancreas
- Prevents from liver glucose production
- Lowers serum cholesterol and triglycerides
- Reduces use of insulin or oral compounds
- Prevents development of diabetes-related health problems

TARGET CONSUMERS

- **Diabetes**
- **Those with family history of Diabetes**
- **Women with gestational diabetes history**
- **For persons whose weight is over 20% of the optimal body weight**
- **People with high blood pressure**
- **People with abnormal cholesterol levels**
- **Older people**
- **Alcohol users & smokers**
- **People prone to infections**