Dietary fenugreek supplementation on lowering blood glucose and glycated haemoglobin (HbA1c) in patients with type 2 diabetes mellitus

Dr. Medini Kagali, BNYS, PG, India

Abstract

Statement of the problem: Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic condition that is on a rise rapidly worldwide. Many herbal medicines have hypoglycemic effects, but they might have side effects. The purpose of the study is despite its wide therapeutic use in certain countries, the efficacy of fenugreek in glycaemic control is uncertain. The current research aims to investigate the effectiveness of fenugreek in lowering blood glucose, glycated haemoglobin and lipid levels in patients with T2DM. Methodology: A systematic review was conducted. The inclusion criteria were empirical research published between 2014 and 2020, examining T2DM patients under fenugreek supplementation for ≥2 months. Findings: Ten empirical papers were identified and they originated from Asia. In nine studies, the effect of fenugreek on FPG was statistically significant as shown by the mean difference of pre- and post-intervention values. These values were also greater than the interventions used in the comparison group (s). The trend was replicated with post-prandial glucose and glycated haemoglobin. Although fenugreek corrected the lipid profile, the elevation of HDL and decrease in cholesterol, triglycerides and LDL did not attain the significance threshold. However, the study comparing fenugreek with glipizide proved that the latter superior, particularly in glycaemic control. Conclusion and significance: Long-term use of fenugreek should be encouraged due to its effectiveness in glycaemic and lipidaemic control. It should be taken alongside standard anti-diabetic medication for synergistic effects but patients should also be monitored closely. For maximum benefits, lifestyle modifications such as physical activity and dietary changes should also be adhered to.

Image

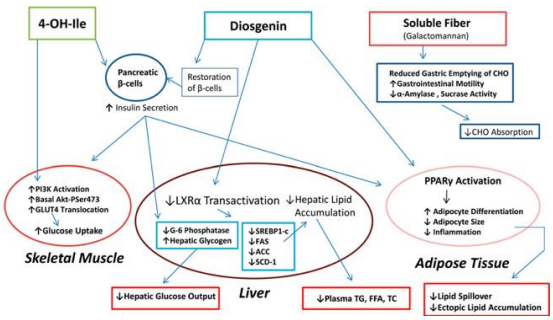


FIGURE 1: The 3 main bioactive compounds of fenugreek and their mechanisms of action. The pancreas, skeletal muscle, liver, adipose tissue, and gut are major tissue targets of fenugreek through which serum markers such as glucose, insulin, and lipids are favorably modulated and metabolic health could thereby be improved.

Recent publication

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Bibliography

A passionate naturopath medical doctor dedicated to exemplary patient outcomes and deliver quality healthcare. Adept in integrative medicine and amalgamating novel holistic concepts to achieve optimal well-being. Proficient in lifestyle medicine to bring forth an empathetic and a professional attitude towards the patients. A resilient commitment to addressing patient concerns and provide a healing ambience. Motivated doctor, eager to work with all colleagues of the medical team and amenable to suggestions and inputs to maximize professional results and amplify patient satisfaction.

E-mail: medinikagali@gmail.com