

## Traditional medicine and nanotech combo can beat diabetes

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New Delhi, May 15 (India Science Wire): Indian scientists have used a traditional medicine derived from a plant source and combined it with silver nanoparticles to make a new drug against diabetes.

The combo, called NanoHerb, uses silver nanoparticles and gymnemic acid isolated from leaves of *gurmar* plant. The combination has been tested in laboratory animals and found safe as well as effective, according to results of the study published in *Journal Material Letters*.

*Gurmar* is native to India and Sri Lanka and its extract is generally taken orally, along with insulin or diabetes drugs, to reduce blood sugar in traditional medicine. Using nanoparticles makes the uptake of this drug more effective. “The small size of nanoparticles enhances uptake of drug in the body, which is the possible mechanism by which it increases the secretion of pancreatic insulin thereby managing diabetes,” according to scientists.

Lab rats were orally fed with metformin and NanoHerb for two weeks. It was found that NanoHerb lowered blood glucose and ‘bad’ cholesterol, while boosting ‘good’ cholesterol just like metformin.

“We recommend biologically synthesized silver nanoparticles to be utilized for treatment of diabetes mellitus and hyperlipidemia. It can be a natural alternative to drugs such as metformin that are synthetic and have side effects”, says Dr. Shankar Kalakotla, Professor at Pullareddy Institute of Pharmacy at Sangareddy in Telangana, and a member of the research team. The group has applied for a patent and plan human trials soon.

The research team included, G Krishna Mohan, Vinyas Mayasa and Lakshmi Pravallika. The study was done at the Institute of Science and Technology, Jawaharlal Nehru Technological University, Hyderabad and KLE University, Belgaum in Karnataka. The Science and Engineering Research Board (SERB), Department of Science and Technology provided funding. (India Science Wire)



G Krishna Mohan (left) and Shankar Kalakotla (right), Jawaharlal Nehru Technological University, Hyderabad did the study.