

Drugs for diabetes: Scientists test the power of plants

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(Medical Xpress)—New drugs to treat diabetes are being developed by scientists at the University of Greenwich.

A group of researchers from the university's School of Science, led by Dr Solomon Habtemariam, believe they have identified potential sources of medicines derived from [plants](#) which may have fewer adverse side-effects for diabetes sufferers.

The scientists are investigating the properties of two plants found in south-east Asia which they think could have properties that are not only anti-diabetic, but also [lipid](#)- or fat-lowering, and so can help tackle obesity.

Dr Habtemariam, a leading expert on drug discovery research from [natural sources](#), says the work could prove a crucial breakthrough in the treatment of diabetes, which he describes a "growing [global epidemic](#)".

"Diabetes is a huge burden to society in general. The search for treatments is making the NHS bankrupt, and this problem is likely to get worse in the next decade. There is no known drug of cure and so, all in all, it's a huge incentive for us to carry out research in this field," he says.

The disease, a result of chronically high levels of [glucose](#) in the blood, affects more than 300 million people in the world. It is split into two main classes: type 1 and type 2. The former normally affects children, while type 2, the most common type, is often diagnosed later in life and

in some cases can be managed by diet, exercise and weight loss.

The researchers at Greenwich aim to isolate and identify certain extracts from the plants *Cassia auriculata* and *Cassia alata*, which could have '[active ingredients](#)' for treating diabetes. They discovered that one of the compounds isolated from the plant, kaempferol 3-O-rutinoside, has proved to be more than eight times more potent than the standard anti-diabetic drug, acarbose.

The team also found the plants have anti-oxidant properties, which is beneficial when treating diabetes.

"Our other most interesting finding is that many of the active ingredients from the *Cassia auriculata* plant work through a process called 'synergism' – in other words, they work together to produce an effect greater than the sum of their individual effects," Dr Habtemariam says. "Overall, this suggests that the crude plant extract has lots of potential to be used clinically for treating [diabetes](#) and associated diseases."

The research is ongoing and requires further study and validation, but Dr Habtemariam says the university's School of Science is an ideal place to be conducting his work. "We have both the facilities and the expertise to carry out this research: to isolate chemicals of biological interest, and then to identify what they are. We are only at the drug discovery stage but moving to the clinical trial stage is a very definite goal."

Cassia auriculata and *Cassia alata* grow in a tropical climate. They are popular both as ornamental plants and for their medicinal uses.

Last year Dr Habtemariam led an international research project which revealed the potential of tansy, a flowering plant found in Europe and Asia, as a treatment for the sexually transmitted disease herpes.

More information: To find out more:
www.gre.ac.uk/about/schools/science

Provided by University of Greenwich

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