Chamomile May Help Prevent Diabetes and Its Complications

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Properties in chamomile, including a tea made from the flower, have a number of anti-diabetes effects in rats, according to new findings published in the Journal of Agricultural and Food Chemistry by researchers in the Japan and the United Kingdom.

Research shows that the prevalence of diabetes, as well as pre-diabetic abnormalities such as insulin resistance and glucose intolerance, has increased dramatically following the introduction of combination antiretroviral (ARV) therapy in the mid-1990s. Protease inhibitors and some nucleoside reverse transcriptase inhibitors have been associated with these problems, and the risk is further elevated as HIV-positive people age.

Significant interest centers on trying to prevent the onset of diabetes using dietary supplement and herbal medicines. Diet and exercise alone don't always reduce insulin levels, and diabetes medications are not without side effects.

Two suggested medicinal properties of chamomile, esculetin and quercetin, have been shown in test tube studies to inhibit an enzyme (sucrose) that converts dietary sugar into glucose in the body. Additionally, the researchers write, chamomile has been used throughout the world to treat "various inflammations, irritations and pains such as skin diseases, wounds, eczema, ulcers, gout, neuralgia and rheumatic pains."

To better understand the potential effects of chamomile on glucose levels, a team headed by Atsushi Kato of the University of Toyama in Toyama, Japan, tested three chamomile extracts—purified esculetin, purified quercetin and basic hot-water tea made from dried flower leaves—in rats for 21 days.

The esculetin had a rapid effect on glucose levels, significantly reducing them within 30 minutes after the rats received a high-dose infusion of sugar; quercetin and chamomile tea were less effective in this regard. However, long-term testing of both quercetin and esculetin demonstrated reduced glucose levels in diabetic rats.

Although the chamomile tea didn't have a pronounced effect on glucose levels, it did inhibit aldose reductase, an enzyme that converts glucose into a sugar alcohol called sorbitol. And because high levels of sorbitol can damage the eyes and nerves—common complications in people with diabetes—chamomile tea was suggested by the researchers to have medicinal potential.

"In conclusion," the authors write, "the present study demonstrated that daily consumption of chamomile tea with meals could be potentially useful in the prevention and self-medication of

hyperglycemia and diabetic complications.”

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