- Teeth

Compound in maple syrup can fight tooth decay, study finds

The Sun (Malaysia) · 11 Aug 2025 · 26

A NATURAL compound in the syrup from maple tree sap can help fight tooth decay, according to new findings that might lead to oral care products with no alcohol and fewer chemicals, researchers said.

The compound known as epicatechin gallate, or ECG, prevents cavity-causing bacteria from growing on teeth and "is a powerful and safe alternative to traditional plaque-fighting agents," the researchers said in a statement.

"Its natural abundance, affordability and lack of toxicity make it especially promising for inclusion in oral care products such as mouthwashes, offering a safer option for young children, who often accidentally swallow mouthwash," they added.

The idea for their study grew from their discovery in an unrelated experiment that the Listeria bacteria – a common cause of food poisoning – can grow and form biofilms on most plants and wood but not on maple.

Working with maple sap and diluted maple syrup, the researchers isolated the compound that inhibits Listeria attachment and experimented to see whether it would have similar effects on Streptococcus mutans, the bacteria that cause biofilms on teeth, also known as plaque, and dental cavities.

The researchers first tested their theory in computer models, according to a report in Microbiology Spectrum.

Next, they confirmed that ECG inhibits the cavity-causing bacteria in test tube experiments.

Finally, they determined that it blocks S. mutans from forming biofilms on plastic teeth and on disks made from hydroxyapatite, the substance in real tooth enamel.

ECG is also present in green and black tea, in much higher amounts than in maple sap or syrup. Drinking green tea has long been associated with lower rates of cavities, the authors said.

"Our findings suggest that ECG or (similar compounds with similar effects) could be added to dental products to help prevent cavities through an antibiofilm mechanism,"study leader Mark Gomelsky of the University of Wyoming said in a statement.

"This is different from traditional approaches, which rely on killing bacteria with alcohol, disinfectants or essential oils, or on fluoride to remineralise enamel." – Reuters