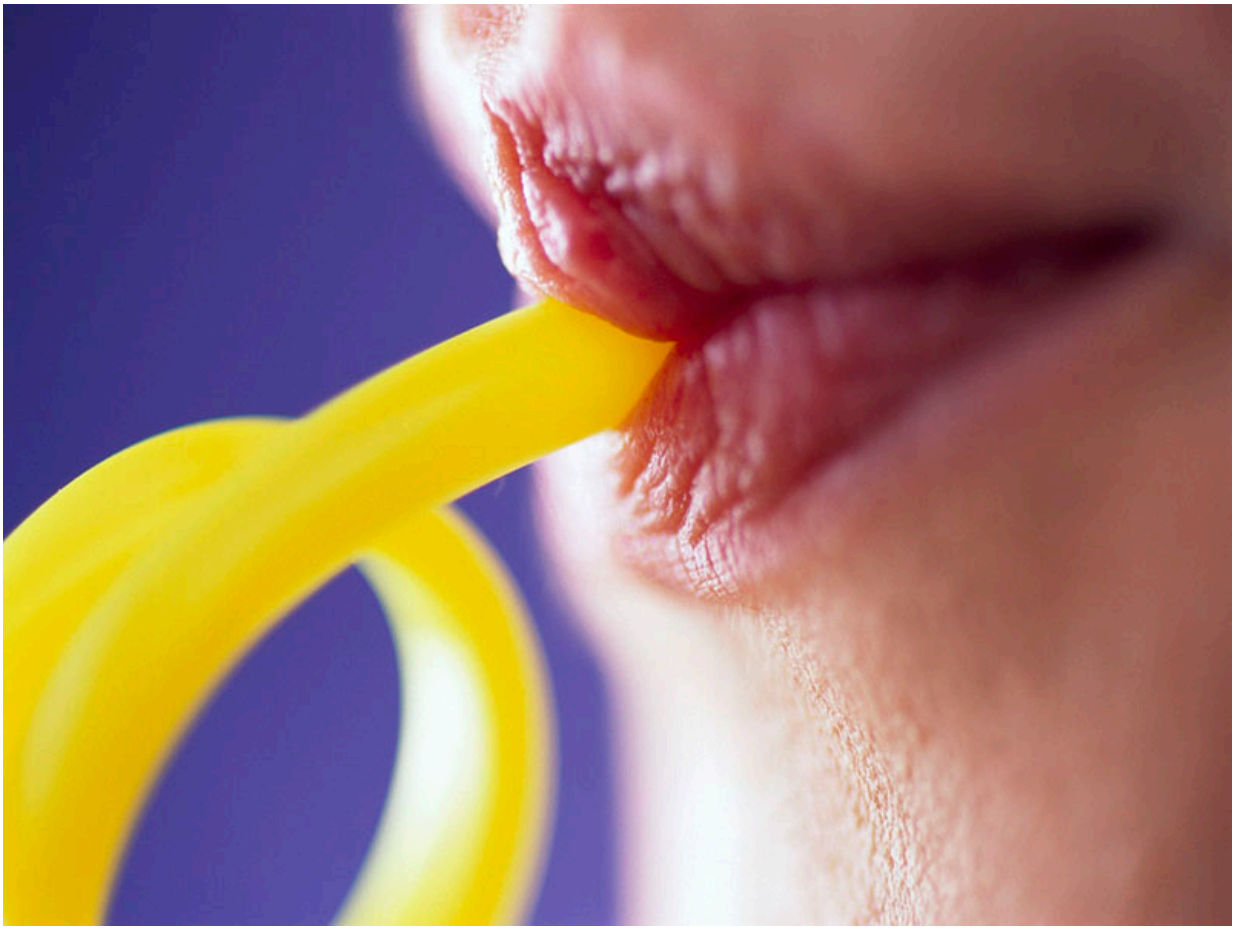
Artificial sweeteners trick the brain: study

August 10 2017



(HealthDay)—New research may help explain the reported link between the use of artificial sweeteners and diabetes, scientists say.

Researchers at Yale University School of Medicine say that in nature the intensity of sweetness reflects the amount of energy present. But in modern-day life, the body's metabolism is fooled when a beverage is either too sweet or not sweet enough for the amount of calories it contains.

That means that a sweet-tasting, lower-calorie drink can trigger a greater metabolic response than a drink with higher calories, they said.

"A calorie is not a calorie," explained senior author Dana Small, a professor of psychiatry.

"The assumption that more calories trigger greater metabolic and brain response is wrong. Calories are only half of the equation; sweet taste perception is the other half," Small said in a university news release.

When a "mismatch" occurs, the brain's reward circuits don't register that calories have been consumed, the researchers said. Many processed foods have such mismatches, such as yogurt with low-calorie sweeteners.

"Our bodies evolved to efficiently use the energy sources available in nature," Small said. "Our modern food environment is characterized by energy sources our bodies have never seen before."

Small and her colleagues said the study may help explain the link between some artificial sweeteners and diabetes discovered in previous research. The topic remains controversial, however, and experts agree more research needs to be done.

The study was published Aug. 10 in the journal *Current Biology*.

More information: The U.S. National Library of Medicine has more on artificial sweeteners.