A team of researchers at the University of California, Davis report that beverages sweetened with low, medium and high amounts of high-fructose corn syrup significantly increase risk factors for cardiovascular disease even when they are consumed for just two weeks by young healthy men and women. The findings of the study will be published in the American Journal of Clinical Nutrition.

This is the first study to demonstrate a direct, dose-dependent relationship between the sugar in sweetened beverages and risk of cardiovascular disease.

Cardiovascular disease is the leading cause of death in the US and around the world. The findings of this study reinforce evidence from an earlier study that showed the risk of death from cardiovascular disease increases as the amount of added sugar consumed increases.

The study was conducted with 85 men and women ranging in age from 18 to 40 years. The participants were placed in four different groups and consumed beverages sweetened with high-fructose corn syrup equivalent to 0 percent, 10 percent, 17.5 percent or 25 percent of their total daily calorie requirements within the first 15 days of the study. The 0-percent group was given a sugar-free beverage that was sweetened with aspartame.

The researchers used hourly blood draws to monitor the changes in the levels of lipoproteins, triglycerides and uric acid. They found that the risk factors increased as the consumption of high-fructose corn syrup increased. Even in the 10-percent group, they observed increased circulating concentrations of LDL cholesterol and triglyceride as compared to the levels at the beginning of the study. It was also observed that the increase in lipid/lipoprotein risk factors were greater in men than in women regardless of body weight gain.

"These findings clearly indicate that humans are acutely sensitive to the harmful effects of excess dietary sugar over a broad range of consumption levels," said Kimber Stanhope, the study's lead author and a research scientist in the UC Davis School of Veterinary Medicine.

Stanhope also emphasises on the need to extend the research and to use carefully controlled dietary intervention studies that should be aimed at determining prudent levels for added sugar consumption.

Source: University of California-Davis

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