

## Diet Key to Diabetes Risk

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HealthDay Reporter

MONDAY, July 28 (HealthDay News) -- Packing on the pounds by drinking too many sugary drinks and not eating enough fruits and veggies appears to be associated with increased risk for type 2 diabetes, while a low-fat diet doesn't alter your risk of developing the blood sugar disease.

That's the conclusion of three studies published in the July 28 issue of the *Archives of Internal Medicine*. Obesity is one of the strongest risk factors for developing diabetes. By 2030, 11.2 percent of the adult population in the United States is expected to suffer from type 2 diabetes, according to the journal report.

In one study, Julie R. Palmer, a professor of epidemiology at the Slone Epidemiology Center at Boston University, and her colleagues looked at the association between type 2 diabetes and drinking sugar-sweetened soft drinks and fruit drinks. For the study, Palmer's team collected data on 43,960 black women, 2,713 of whom developed type 2 diabetes during 10 years of follow-up.

"Drinking sweetened soft drinks or fruit drinks was associated with an increased risk of developing diabetes," Palmer said. "Specifically, women who drank two or more soft drinks per day or two or more fruit drinks per day had a 25 to 30 percent increased risk of diabetes. Drinking diet soft drinks did not increase risk."

Both soft drinks and fruit drinks, if consumed frequently, will increase the risk of type 2 diabetes. The main mechanism seems to be through their effects on weight gain, Palmer said. "Reducing consumption of these beverages may be a concrete way to reduce weight gain and prevent diabetes," she said.

"Fruit drinks, which are increasingly being consumed by the U.S. population, are not a healthy alternative to soft drinks, at least with regard to risk of type 2 diabetes," Palmer said. "Fruit drinks typically contain as many or more calories as soft drinks and, like soft drinks, may not decrease satiety to the same extent as solid foods."

In another study, British researchers led by Nita Forouhi, from the Medical Research Council Epidemiology Unit at the Institute of Metabolic Science of Addenbrooke's Hospital in Cambridge, collected data on 21,831 healthy middle-aged men and women who did not have diabetes. Over the 12 years of the study, 735 people developed diabetes.

To determine how much fruit and vegetables these people ate, the researchers measured blood levels of vitamin C, which serves as a marker for the amount of fruits and vegetables eaten.

"We have found that eating greater amounts of fruits and vegetables is associated with lower risk of future type 2 diabetes," Forouhi said.

For people with the highest blood level of vitamin C, the risk of developing diabetes over 12 years was reduced by 62 percent, compared with those with the lowest levels of vitamin C, Forouhi said. "We also found an association of eating fruit and vegetables with lower risk of diabetes, with a 22 percent reduction of risk of future diabetes in the highest compared to lowest intake of fruits and vegetables," she said.

Eating even a small quantity of fruit and vegetables is good for you, Forouhi said. "Eating some fruits and vegetables is still better than none. In addition, the association of fruits and vegetables with reduced diabetes risk gets stronger progressively with the amount of fruits and vegetables eaten -- the more that you eat, the greater the potential benefit," she said.

In a third study, Lesley F. Tinker, from the Women's Health Initiative at the Fred Hutchinson Cancer Research Center in Seattle, and colleagues found no significant reduction in the risk of developing diabetes among women on a low-fat diet. However, the low-fat diet did increase weight loss, which can result in fewer cases of type 2 diabetes.

For the study, Tinker's team collected data on 48,835 post-menopausal women who were randomly assigned to a low-fat diet, which contain more fruits and vegetables and whole grains, or to a continuation of their usual diet. The researchers found that 7.1 percent of the women on the low-fat diet developed diabetes compared with 7.4 percent of the women who continued their usual diet.



Women on a low-fat diet lost about 4.2 pounds more weight during the study than women on a regular diet, the researchers noted.

"Modest weight loss, rather than macronutrient composition, may be the dominant predictor of reduced risk of diabetes," Tinker said. "The beauty of a low-fat diet that includes lots of vegetables and fruits is that it is sustainable," she said.

**Dr. David L. Katz, director of the Prevention Research Center at Yale University School of Medicine, thinks that these studies confirm that diet is an important component of producing the risk of diabetes.**

"An excess of simple sugar tends to be bad for health and to promote both weight gain and the development of diabetes," Katz said. "An abundant intake of fruits and vegetables defends health and defends against diabetes."

In addition, portion control helps prevent obesity, and by so doing, helps prevent diabetes, Katz said. "The power of diet has been well-established in both diabetes control and prevention. The Diabetes Prevention Program demonstrated a 58 percent reduction in the occurrence of diabetes in high-risk adults with a balanced, wholesome, mostly plant-based diet in combination with regular physical activity," he added.

Dr. Mark N. Feinglos, chief of Endocrinology, Metabolism, and Nutrition at Duke University Medical Center, and author of an accompanying editorial, no specific food by itself increases the risk for diabetes, rather it's eating too much and gaining too much weight.

"But it's clear that high fructose corn syrup is not a good actor, and it's everywhere now," Feinglos said. "People who have a lot of beverages with high fructose corn syrup are not compensating by having fewer other calories, and it may not function to allow you to feel full, he said. "High fructose corn syrup may also cause liver problems and insulin resistance."

"At this point, all we can say is -- calories trump everything," he said. "All these high-density, empty calorie foods that are adding to the caloric load of the population and making it heavier are the real culprits."

In another study in the same journal, John M. Jakicic, from the University of Pittsburgh, and colleagues found that exercise, as well as diet, is important in maintaining weight loss.

The researchers found that among a group of women who all had lost about 10 pounds, only about 25 percent maintain their weight loss. Moreover these were the women who exercised about 55 minutes a day five days a week.

"This clarifies the amount of physical activity that should be targeted for achieving and sustaining this magnitude of weight loss, but also demonstrates the difficulty of sustaining this level of physical activity," the authors wrote.

### **More information**

For more about diabetes, visit the [American Diabetes Association](#).