WASHINGTON - Women who drink non-diet soda or fruit punch every day gain weight quickly and face a sharply elevated risk of diabetes, according to a major study released yesterday.

The study of more than 50,000 U.S. nurses found that those who drank just one soda or fruit punch a day tended to gain much more weight than those who drank less than one a month, and had more than an 80 percent increased risk of developing the most common form of diabetes. The risk pertained to drinks sweetened with either sugar or high-fructose corn syrup.

Although previous studies have linked such drinks to obesity and diabetes, the association has been the subject of intense debate. The new study is by far the largest and best-designed and one of the first to examine the issue in adults.

"The message is: Anyone who cares about their health or the health of their family would not consume these beverages," said Walter Willett of the Harvard School of Public Health, who helped conduct the study.

Although the study involved only women, the researchers believed the risks also held for men.

Other experts agreed, saying the study represented a milestone in the debate over soft-drink consumption, which has skyrocketed in the last 20 years in parallel with the rising obesity epidemic.

"While it shouldn't be surprising to anyone that soda causes weight gain because it's high in calories, these findings are very significant," said Caroline Apovian of the Boston University School of Medicine, who wrote an editorial accompanying the findings in yesterday's Journal of the American Medical Association.

The sugar and beverage industries said the study was fundamentally flawed. "The conclusions from this study are scientifically unsound and they are at odds with all that's known in the scientific community," said Richard Adamson, vice president for scientific and technical affairs at the American Beverage Association. "These allegations are inflammatory."

Adamson said the researchers failed to take into consideration a host of other variables that could account for the apparent risk. Women who drink a lot of soda may simply have generally unhealthy lifestyles, he said.

Any increased risk for diabetes in the study could be attributed to the weight the women gained, not their sugar intake, said Charles Baker, vice president for scientific affairs for the Sugar Association.