

Trimming Soda Sales Leads to Trimmer Waists

After a hospital moved to limit sugary drinks on its campus, workers lost belly fat.

By ANAHAD O'CONNOR

In recent years, hospitals and medical centers across the country have stopped selling sugar-sweetened beverages in an effort to reduce obesity and diabetes.

Now a new study carried out at the University of California, San Francisco, has documented the health impact of a soda sales ban on its employees. Ten months after a sales ban went into effect, U.C.S.F. workers who tended to drink a lot of sugary beverages had cut their daily intake by about half. By the end of the study period, they had, on average, reduced their waist sizes and belly fat, though they did not see any changes in their body mass index. Those who cut back on sugary beverages also tended to see improvements in insulin resistance, a risk factor for Type 2 diabetes.

The new research, published in *JAMA Internal Medicine*, is the first peer-reviewed study to examine whether a workplace sales ban on sugary drinks could lead to reduced consumption of the beverages and improve employee health. At least nine other University of California campuses have said they are going to adopt similar initiatives to reduce sugary beverage sales and promote water consumption.

"This was an intervention that was easy to implement," said Elissa Epel, an author of the study and director of the Aging, Metabolism, and Emotions Center at U.C.S.F. "It's promising because it shows that an environmental change can help people over the long run, particularly those who are consuming large amounts of sugary beverages, and possibly even lead to a reduction in their risk of cardiometabolic disease."

In recent years, the link between sugar and obesity has drawn increasing scientific attention. Health authorities say that Americans have gotten fatter because they are consuming too many calories of all kinds. But some experts have singled out the role of added sugar consumption, which increased more than 30 percent between 1977 and 2010.

According to the Harvard School of Public Health, sports drinks, fruit punches, sodas and other sweetened drinks are the single largest source of calories and added sugar in the American diet and "a major contributor to the obesity epidemic." Large studies have linked them to an increased risk of Type 2 diabetes, heart disease and premature death.

But critics point out that obesity rates have continued to rise even though con-



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After 10 months, workers' waist sizes decreased by an average of 2.1 centimeters.

sumption of sugar-sweetened beverages in America has fallen in the last 16 years. About half of all adults consume sugary drinks on any given day, down from roughly 62 percent in 2003. Large beverage companies like Coca-Cola, PepsiCo and the Dr Pepper Snapple Group are also offering many more drinks that have low or no calories. More than half of the beverages they sell today contain no sugar, said William Dermody, a spokesman for the American Beverage Association.

"We believe that the actions America's leading beverage companies are taking to reduce sugar across their broad portfolio of products is a better and more effective way to help reduce the amount of sugar people get from beverages than unpopular bans," he said.

Concerns about sugar have prompted at least 30 medical centers nationwide to stop selling sugary drinks, including the University of Michigan Health System, the Cleveland Clinic and the Baylor Health Care System. A similar movement took place in Britain, where in 2018 the National Health Service banned the sale of sugary beverages in hospitals across England.

Sugary drink sales bans have been somewhat less controversial than soda taxes, which have had mixed results. A study in Berkeley, Calif., found that sugary drink consumption fell and water consumption rose three years after the city put in place a soda tax. But another recent study found no significant overall declines in consumption in Philadelphia and Oakland, Calif., in re-

sponse to soda taxes there. In Philadelphia, the largest city with a soda tax, consumption of soda in particular did fall, and children who were heavy consumers of sugary beverages reported drinking less. But residents also reported buying more sugary beverages in neighboring towns that did not have soda taxes.

U.C.S.F., a health sciences center with more than 24,000 employees, carried out its sales ban in 2015. The university removed all sugar-sweetened beverages from cafeterias, food trucks and vending machines on its campus and installed more water stations. Fast-food chains like Subway and Panda Express on its campus agreed to stop selling the beverages as well. One exception was made for 100 percent fruit juices, which contain natural sugars but have no sugar added to them. The university does not forbid people to bring their own sugary beverages on campus, but they will find only bottled water, diet drinks, unsweetened teas and 100 percent fruit juices for sale.

To examine the impact of the sales ban, the researchers recruited a diverse group of 214 campus employees and then followed them, regularly taking blood samples and measuring things like their weight, soda intake and waist sizes. The study was funded by the University of California, U.C.S.F. and several philanthropic groups, including the Robert Wood Johnson Foundation and the Laura and John Arnold Foundation, which has given money to support taxes on sugary beverages.

At the outset, the researchers focused on

enrolling a lot of lower-income service workers because they tended to drink the most sugary beverages. On average, the employees recruited for the study drank the equivalent of three cans of soda per day. One group that had an especially high sugar intake was cafeteria workers, the result of an "open tap" policy that allowed them to drink freely from the dining hall soda machines, Dr. Epel said.

"While that sounds like it was a favor to them, it was actually detrimental to their health," she said. "This subgroup of workers tended to have a heavier B.M.I."

Dr. Epel and her colleagues split the workers into two groups. One was assigned to undergo a brief motivational intervention that was modeled on standard alcohol interventions: They met with a health educator who talked to them about the health effects of sugar and showed them how much they were ingesting each day using sugar cubes in a cup. The educator helped them set goals and occasionally called them to check in. The second group of workers served as controls.

After 10 months, the workers in both groups cut their intake of sugary drinks to 18 ounces a day, down from about 35 ounces. While there was no overall change in their B.M.I., they had reductions in two measures of abdominal fat, including their waist sizes, which shrank by an average of 2.1 centimeters. Dr. Epel said this was because sugar intake is strongly linked to belly fat. "The type of fat that we store in the liver and in the abdominal fat tissue is very sensitive to sugar," she said.

The study found that overweight people who were assigned to the motivational sessions made the biggest changes. They had the greatest reductions in sugary beverage intake and larger improvements in their metabolic health.

Laura Schmidt, a professor at U.C.S.F. medical school and senior author of the study, said that ending sugary beverage sales at the workplace could be a simple way for private employers to improve employee health and lower health care costs. She pointed out that it costs the University of California health care plan more than \$5,000 per year to cover someone with pre-diabetes compared with someone without it.

Dr. Schmidt said that the policy was also an easy switch for U.C.S.F.'s beverage supplier. Instead of stocking campus stores and cafeterias with Sprite and Coca-Cola, they filled them with mostly bottled water and low- or no-calorie beverages instead.

"U.C.S.F. still has a contract with Coca-Cola and they still show up at the medical center in their big red truck, except now they unload Dasani water instead of Coke," she added.