

CWHHS

CALIFORNIA DEPARTMENT OF HEALTH CARE SERVICES AND CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

OFFICE OF WOMEN'S HEALTH

Data Points

RESULTS FROM THE 2009 CALIFORNIA WOMEN'S HEALTH SURVEY

Consumption of soda and other sugar-sweetened beverages (SSBs) has been identified as a risk factor for obesity, metabolic syndrome, and type 2 diabetes.^{1,2} In California, adults who reported drinking SSBs daily (62 percent) were 27 percent more likely to be overweight or obese than those who reported drinking no SSBs during the prior month.¹ Reducing consumption of SSBs is one of the six target areas of the Centers for Disease Control and Prevention's funded California Obesity Prevention Program.³ It is also the focus of the California Department of Public Health's *Network for a Healthy California's Rethink Your Drink* social marketing campaign conducted in nine of the Network's 11 statewide regions.

These analyses were conducted with 4,333 women participating in the 2009 California Women's Health Survey who answered the question: *Over the last month (past 30 days), how many times per month, week, or day did you drink at least one 8-oz. glass of regular soda, fruit drink, or other sweet beverage like Kool-Aid, lemonade, Hi-C, cranberry juice drink, energy drink and sports drink? Include beverages you drank at all mealtimes and between meals, but do not include diet drinks.* Women were classified as high consumers of SSBs if they reported drinking at least one a day.

Women were also asked sociodemographic questions to classify their household income by ratio to the Federal Poverty Guidelines (FPG)⁴ and to identify their participation in the Food Stamp Program (FSP).⁵ They were asked the U.S. Department of Agriculture's standardized, six-item

validated short form of the food security scale,⁶ with responses categorized for these analyses as food secure⁷ or not food secure. Self-reported height and weight were used to identify body mass index (BMI).⁸ Additional questions established general health status, number of children in the household, educational level, age group, and race/ethnicity.

The relationship between high consumption of sweetened beverages and sociodemographic characteristics (poverty level/FSP participation, food security status, body weight category, general health status, education, age group, race/ethnicity, and children in the household) was examined using bivariate statistics and logistic regression. Responses were weighted in these analyses by age and race/ethnicity to reflect the 2000 California adult female population. All findings were statistically significant at $P < .001$ unless otherwise specified.

Nearly one quarter of California women (24.4 percent) reported consuming at least one daily soda or other sweetened beverage. A strong positive association was found between the consumption of SSBs and poverty-related variables of FSP participation, decreased ratio of income to the FPG, and food insecurity (Figure 1): Consumption of SSBs increased as these increased.

- FSP participants and low income women (< 130 percent of the FPG) reported significantly greater daily consumption of SSBs (41.9 percent and 33.7 percent, respectively) than women from higher income households (23.5

Consumption of Sugar-Sweetened Beverages Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

Public Health Message:
Low income California women are more likely than women in higher income groups to drink one or more sugar-sweetened beverage daily, as are younger women of child bearing age and those with less education. Strong messages that promote alternative healthy, lower calorie beverages, delivered in a creative, engaging media format could be a valuable addition to public health strategies for obesity prevention, for women and their children.

Consumption of Sugar-Sweetened Beverages Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

percent for women with income > 130 percent - 185 percent of the FPG, and 18.7 percent for women with income > 185 percent of the FPG). Neither the low income and FSP groups differed statistically from one another nor did the two higher income groups.

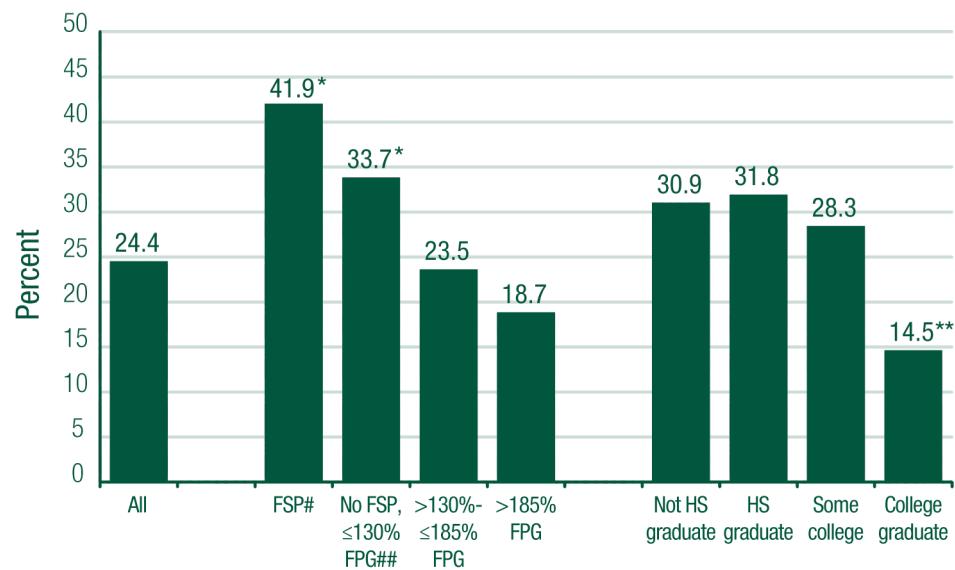
- Food-insecure women were significantly more likely to report drinking at least one SSB per day (33.9 percent) than women who reported being food secure (20.9 percent).

Although the initial regression model included all eight sociodemographic characteristic variables that had significant bivariate relationships, only four remained significant and were included in the final model: education level, age group, race/ethnicity, and poverty level/FSP participa-

tion. After controlling for the other variables in the final model:

- Women who had not graduated from college were about twice more likely to drink SSBs daily than women who had graduated.
- Women ages 18 to 44 were 1.4 times more likely than women ages 45 and older to drink SSBs daily.
- Women from all other racial/ethnic groups were more likely than Hispanic women to drink SSBs daily: African American/Black women were 2.9 times more likely; White women were 1.3 times more likely; and Asian/Other women were 1.2 times more likely.

Figure 1
Sugar-Sweetened Beverage Consumption in California Women, by Food Stamp Participation, Income, and Education, 2009



* $P < .05$ between each < 130% Federal Poverty Guideline (FPG) group and each > 130% FPG group

** $P < .001$ between college graduate and each other educational level

Food Stamp Program participant

Not an FSP participant, but household income is at FSP qualifying cutpoint $\leq 130\%$ FPG

Source: California Women's Health Survey, 2008-2009

Consumption of Sugar-Sweetened Beverages Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

However, other than Hispanics, there were no significant differences between the racial/ethnic groups.

- FSP participants and women from low income households (< 130 percent of the FPG) were 1.9 and 1.6 times more likely respectively to drink SSBs daily than women from higher income levels.

- 1 Babey SH, Jones M, Yu H, Goldstein H. Bubbling over: soda consumption and its link to obesity. UCLA Center for Health Policy Research and California Center for Public Health Advocacy. <http://www.healthpolicy.ucla.edu/pubs/files/Soda%20PB%20FINAL%203-23-09.pdf>. Published September 2009. Accessed October 12, 2010.
- 2 Malik VS, Popkin BM, Bray GA, Després JP, Willett WC, Hu FB. Sugar sweetened beverages and risk of metabolic syndrome and Type 2 diabetes: a meta-analysis. *Diabetes Care* 2010; 33(11):2477-2483.
- 3 California Obesity Prevention Program. California Department of Public Health Website. <http://www.cdph.ca.gov/programs/COPP/Pages/default.aspx>. Accessed October 12, 2010.
- 4 Percent of Federal Poverty Guidelines (FPG) is used, among other things, to help determine eligibility for public programs. The upper limit for income eligibility for the Food Stamp Program is 130 percent FPG.
- 5 The federal Food Stamp Program is now called the Supplemental Nutrition Assistance Program (SNAP), and the California program is called CalFresh.
- 6 Bickel G, Nord M, Price C, Hamilton W, Cook J. Guide to measuring food security, revised 2000. Alexandria, VA; Food and Nutrition Service, U.S. Dept. of Agriculture; 2000.
- 7 Food security is defined as having “access, at all times, to enough food for an active, healthy life.”
- 8 BMI - lower than 18.5 = underweight; BMI > 18.5 < 25 = healthy weight; BMI at least 25< 30 = overweight; BMI >30 = obese.

Submitted by: Sharon B. Sugerman, M.S., R.D., Patrick Mitchell, Dr.PH., and Barbara McNelly, M.P.H., California Department of Public Health, Cancer Control Branch, *Network for a Healthy California*, (916) 449-5406, Sharon.Sugerman@cdph.ca.gov