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Intake of Sugar-sweetened Beverages among Adults in Seattle, WA, 2017

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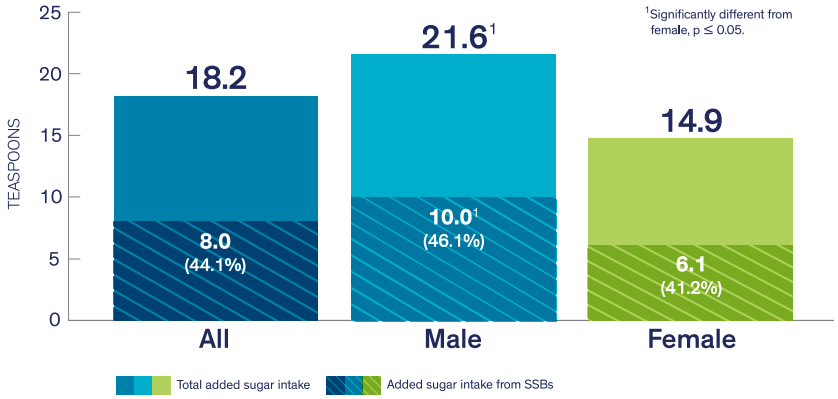
Key Findings

- **On average, in Seattle, WA, added-sugar intake from SSBs is 8.0 teaspoons per day among adults, making up 44% of total daily added-sugar intake.**
- **Adults consume SSBs, on average, one time per day; and, one in eight adults consume SSBs two or more times per day in a month.**
- **Older adults (aged 50-64) are less likely to be frequent SSB consumers than younger counterparts.**
- **Significantly more NH black adults report frequent SSB consumption compared to Hispanic and NH Asian adults. Asian adults are also less likely to be frequent SSB consumers compared to NH white adults.**
- **Lower-educated adults are more likely to be frequent SSB consumers compared to those with higher levels of education.**

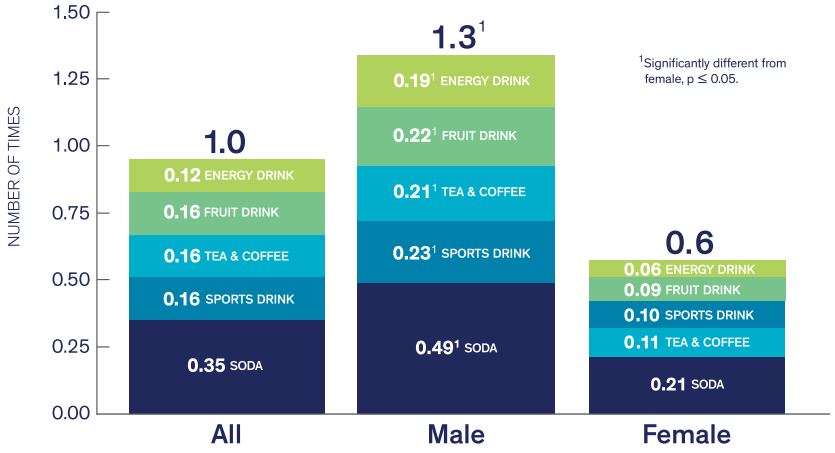
Policy makers in the U.S. and worldwide are considering and implementing a variety of policy instruments aimed at reducing sugar-sweetened beverage (SSB) consumption as a public health strategy[1] to curb obesity, type 2 diabetes, cardiovascular disease, osteoporosis, and dental caries.[2-5] To make informed local policy decisions, it is critical to understand the extent SSBs are consumed and contribute to added-sugar intake. Beverages are the primary source of added sugars in the American diet, with non-alcoholic sweetened beverages making up 46% of total added-sugar intake.[6] While SSB consumption has reportedly declined, half of United States (U.S.) adults and 60% of U.S. youth still consume at least one SSB on a given day.[7] Furthermore, 6.5% of U.S. adults' daily energy intake comes from SSBs.[8] The Public Health Department of Seattle-King County reports that 57% of Seattle adults consume SSBs every month,[9] 17% are obese, and 5% have diabetes.[10] Disparities in Seattle and King County are found by income and race/ethnicity; those with the lowest incomes and American Indians/Alaska Natives and blacks have the highest obesity rates.[10] This research brief presents information on the estimated number of teaspoons (tsp) of daily added-sugar intake from SSBs, added-sugar intake from SSBs as a percentage of daily total added-sugar intake from all sources including SSBs, and the frequency of SSB consumption among adults aged 18-64 living in Seattle, WA, in 2017. Estimates are presented by gender, age, race/ethnicity, and education.

FIGURE 1 **Added-sugar intake per day in a month from sugar-sweetened beverages and in total among adults aged 18-64, by gender, Seattle, WA, 2017**



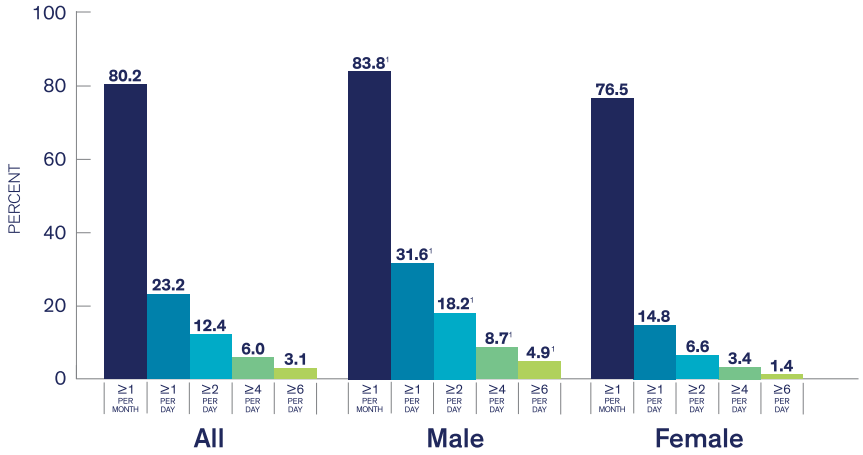
- On average, among adults, added-sugar intake from SSBs is 8.0 teaspoons (tsp) per day and total added-sugar intake is 18.2 tsp per day.
- Consumption of added sugar from SSBs makes up 44% of total daily added-sugar intake among adults.
- Male adults consume significantly more added sugar from SSBs (10.0 versus 6.1 tsp per day) and total added sugar in their diet (21.6 versus 14.9 tsp per day) than female adults.

FIGURE 2 **Number of times adults aged 18-64 consume sugar-sweetened beverages, on average, per day in a month, by beverage type and gender, Seattle, WA, 2017**



- On average, adults aged 18-64 consume SSBs 1.0 time per day in a month.
- On average, adults consume soda 0.4 times per day in a month, followed by fruit drinks, sports drinks, and tea/coffee at approximately 0.2 times each, and energy drinks at about 0.1 times.
- Male adults report consuming SSBs significantly more times per day in a month than female adults (1.3 versus 0.6, respectively).
- Male adults consume energy drinks three times as often and all other SSBs (soda, sports drinks, tea/coffee, and fruit drinks) twice as often as their female counterparts.

FIGURE 3 **Percentage of adults aged 18-64 who consume sugar-sweetened beverages (SSBs) at least one time in a month and consume SSBs one or more, two or more, four or more, and six or more times per day in a month by gender, Seattle, WA, 2017**



[1]Significantly different from female, p ≤ 0.05.

- Eight in ten (80.2%) adults consume SSBs at least one time in a month and one in five (23.2%) consume SSBs daily (≥1 time per day in a month).
- One in eight adults (12.4%) are frequent SSB consumers (≥2 times per day in a month), 6.0% are heavy SSB consumers (≥4 times per day in a month), and 3.1% are very heavy SSB consumers (≥6 times per day in a month).
- Prevalence of daily frequent SSB consumption among male adults (18.2%) is approximately three times that of the female adults (6.6%).

FIGURE 4 **Percentage of adults aged 18-64 who consume sugar-sweetened beverages frequently (≥2 times per day in a month), by age, race/ethnicity, and education, Seattle, WA, 2017**

[1]Significantly different from ages 50–64, p ≤ 0.05.
[2]Significantly different from Hispanic, p ≤ 0.05.
[3]Significantly different from non-Hispanic Asian, p≤ 0.05.
[4]Significantly different from some college, p ≤ 0.05.
[5]Significantly different from college degree or more, p ≤ 0.05.

NH: Non-Hispanic
NH Other: NH American Indian or NH Alaska Native, NH Pacific Islander, NH Other (unspecified), and NH Multi-race.
HS: High school

- Significantly more adults aged 18-34 and 35-49 report frequent SSB consumption (13.2% and 15.0%, respectively) compared to older adults aged 50-64 (8.1%).
- NH white (13.6%) and NH black adults (21.6%) are more likely to report frequent SSB consumption compared to NH Asian adults (5.3%). Additionally, NH black adults are more likely to report frequent SSB consumption compared to Hispanic adults (9.3%).
- Individuals with lower levels of education are significantly more likely to be frequent SSB consumers: 9.0% for those with a college degree or more, 14.2% for those with some college, and 22.7% for those with high school education or less.

Summary

On average, among adults aged 18-64 in Seattle, WA, added-sugar intake from SSBs (8.0 tsp per day) makes up 44% of total daily added-sugar intake. Adults in Seattle consume SSBs, on average, 1.0 time per day in a month, with significantly higher consumption frequency among male compared to female adults. A number of differences in the frequency of SSB consumption exist by demographic and socioeconomic characteristics. Younger adults (18-34 and 35-49) are consistently more likely to be frequent SSB consumers compared to older adults (50-64). Non-Hispanic white and non-Hispanic black adults are more likely to be frequent SSB consumers compared to non-Hispanic Asian adults. Additionally, non-Hispanic black adults are more likely to be frequent SSB consumers compared to Hispanic adults. Frequent SSB consumption is higher among lower- versus higher-educated adults. These differences in SSB consumption may contribute to disparities in obesity and related health outcomes.

Definitions

Sugar-sweetened beverages (SSBs): SSBs include the following categories of calorically sweetened beverages: soda, fruit drinks, sports drinks, energy drinks, and bottled iced tea/coffee.
Any SSB Consumption: SSBs are consumed at least one time in the past month.
Daily Consumption: SSBs are consumed ≥1 time per day in the past month.
Frequent SSB Consumption: SSBs are consumed ≥2 times per day in the past month.
Heavy SSB Consumption: SSBs are consumed ≥4 times per day in the past month.
Very Heavy SSB Consumption: SSBs are consumed ≥6 times per day in the past month.

Data and Methods

The data for this study were drawn from an online survey of adults 18-64 years of age in Seattle, WA administered by Qualtrics, Provo, UT, in November 2017.[11] Data were collected on food and beverage consumption and on demographic and socioeconomic characteristics. Data were weighted to be representative of the demographic and socioeconomic composition of adults in Seattle, WA.[12,13] The final analytic sample consisted of 1,475 individuals. Consumption data on foods and beverages that contribute to sugar intake were collected using frequency measures based on the Dietary Screener Questionnaire (DSQ) in the NHANES 2009-2010.[14, 15] Eight of the items included in the DSQ assessed added sugars. Three items in the DSQ were used to estimate added-sugar intake from SSBs: 1) soda; 2) fruit, sports, and energy drinks combined as one category referred to as "sugar-sweetened drinks"; and 3) teas and coffees sweetened with sugar. The remaining five DSQ items used in the added-sugar assessment included: frozen desserts; chocolate and candy; doughnuts; cookies, cake, pie, and brownies; and cereal. The DSQ frequency responses (based on same question format as noted below) were converted to estimates of added-sugar intake in teaspoons using a regression-based scoring algorithm with sex- and age-specific portion size information developed by the National Cancer Institute.[16] Estimates for the weighted mean added-sugar intake are reported for the full sample and by gender. Consumption frequency data for five types of SSBs (i.e., soda, fruit drinks, sports drinks, energy drinks, and bottled iced tea/coffee) were included in this analysis. Specifically, the following question was used for each SSB type: *During the past month, how often did you drink [SSB type] that contains sugar? Do not include diet [SSB type].* Respondents were able to choose one of the following responses: *Never; 1 time last month; 2-3 times last month; 1 time per week; 2 times per week; 3-4 times per week; 5-6 times per week; 1 time per day; 2-3 times per day; 4-5 times per day; 6 or more times per day.* An overall SSB consumption measure was constructed by aggregating the number of times in the past month each of the five types of SSBs was consumed. Means were reported for the number of times per day SSBs were consumed in the past month, including by SSB type. The prevalence of SSB consumption at least one time in the past month and the prevalence of daily, frequent, heavy, and very heavy SSB consumption in the past month were reported. Summary statistics for the number of times per day SSBs were consumed in the past month and prevalence of any, daily, frequent, heavy, and very heavy SSB consumption in the past month were reported for the full sample and by gender. Prevalence of frequent SSB consumption in the past month was reported by age, race/ethnicity, and education. The estimates of added-sugar intake (from SSBs and total) and number of times per day SSBs were consumed in the past month were tested using t-tests and prevalence estimates were tested using z-tests to determine statistically significant ($p \leq 0.05$) differences by sociodemographic characteristics.

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