



Food Surveys Research Group
Dietary Data Brief No. 26
December 2019

Added Sugars in American Children's Diet: What We Eat in America, NHANES 2015-2016

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Highlights

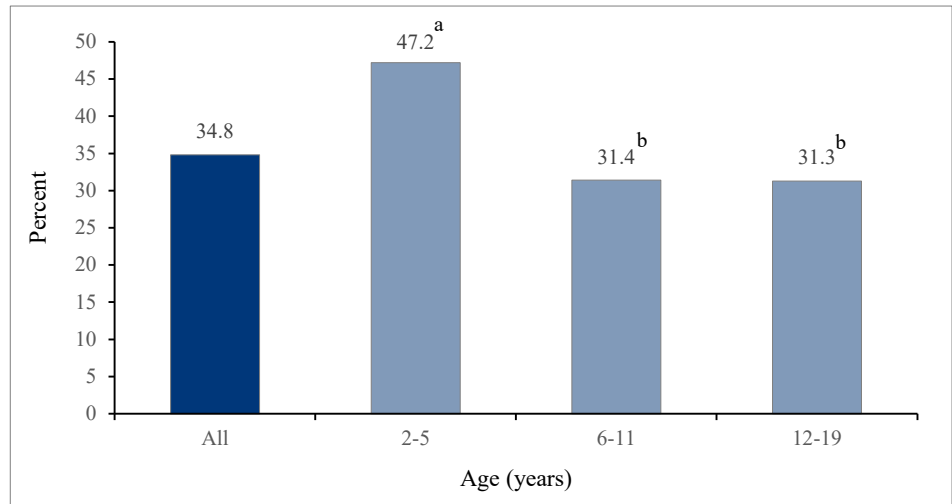
- About 35 percent of children 2 to 19 years of age met the 2015-2020 DGA recommendation for added sugars, by limiting added sugars intake to less than 10% of total energy for the day.
- On average, those who met the recommendation obtained 5.9 percent, and those who did not meet the recommendation obtained 18.5 percent of total energy from added sugars.
- Significantly higher percentages of children 2-5 years met the recommendation than the older children.
- Sweetened beverages, sweet bakery products, and candy were the top three sources of added sugars in the diet of children who did not meet the DGA added sugars recommendation.

The Dietary Guidelines for Americans 2015-2020 (DGA) recommend that Americans limit their added sugars intake to less than 10 percent of daily calories [1]. This study focuses on the major food and beverage sources of added sugars in American children's diet. The study used What We Eat in America (WWEIA), NHANES 2015-2016, day 1 dietary data and the Food Patterns Equivalents data 2015-2016 [2, 3]. WWEIA Food Categories were used to estimate added sugars contribution [4].

What percentage of American children meet the DGA added sugars recommendation?

Children 2 to 19 years of age, on average, obtained an estimated 14 percent of total energy from added sugars. About 35 percent of all children met the DGA added sugars recommendation (Figure 1). On average, the children who met the recommendation obtained 5.9 percent, and the children who did not meet the recommendation obtained 18.5 percent of total energy from added sugars.

Figure 1. Estimated percentages of children meeting the DGA 2015-2020 added sugars recommendation¹ by age, WWEIA, NHANES 2015-2016



¹ Limiting added sugars intakes to less than 10 percent of daily energy

Percentages with same superscripts are not significantly different from each other at $p < 0.01$

DATA SOURCE: WWEIA, NHANES 2015-2016, day 1, children 2-19 years and FPED 2015-2016 (N=2,901)



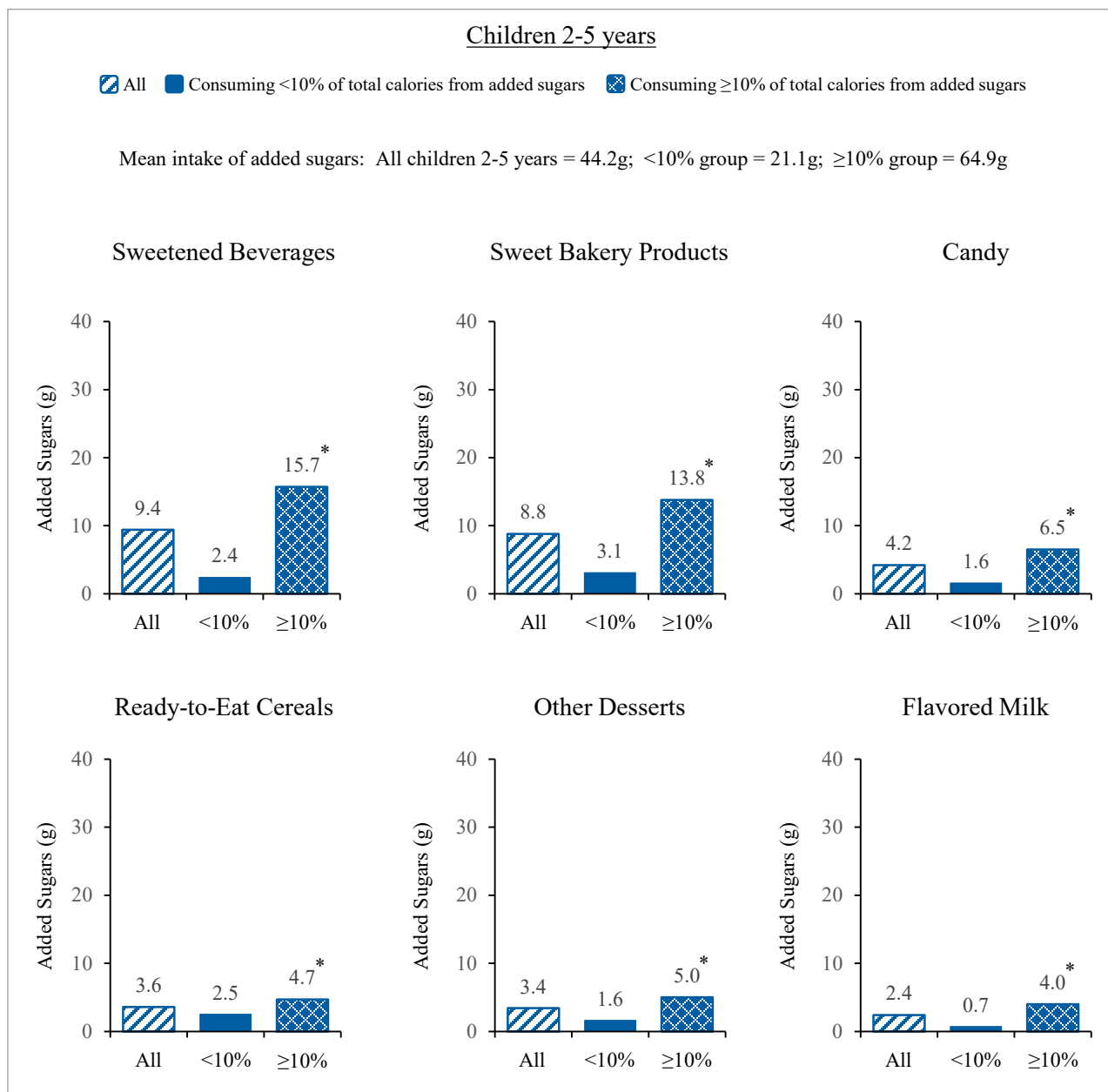
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What are the salient sources of added sugars in the diet of children 2-5 years?

The salient sources of added sugars, in grams, in the diet of all children ages 2-5 years (N=665) are in Figure 2., and the mean intake was 44.2 grams. Sweetened beverages such as soft drinks, fruit drinks, and sports and energy drinks, were the top source of added sugars providing 21.3 percent followed by sweet bakery products such as cakes, pies, cookies, brownies, doughnuts, sweet rolls, and pastries, providing 19.9 percent of added sugars. Other sources were: candy 9.4 percent; ready-to-eat cereals 8.2 percent; other desserts such as frozen dairy desserts and pudding 7.7 percent; and flavored milk 5.5 percent.

Figure 2. Comparison of mean amounts of added sugars, in grams, obtained from salient food and beverage sources, by children 2-5 years, grouped by added sugars intake status



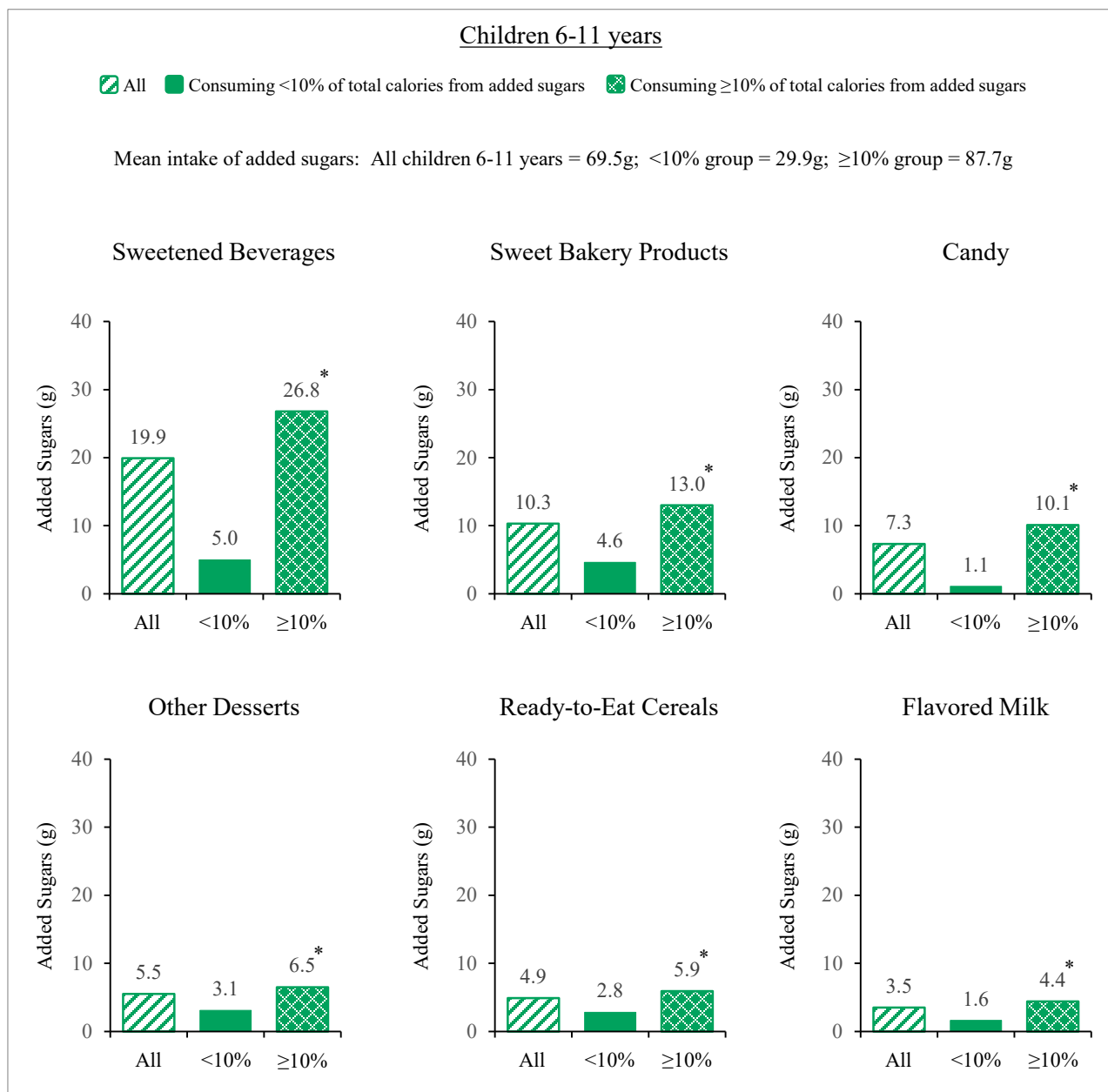
* Means significantly different from each other at p<0.01

DATA SOURCE: WWEIA, NHANES 2015-2016, day 1, children 2-5 years and FPED 2015-2016 (N=665)

What are the salient sources of added sugars in the diet of children 6-11 years?

The salient sources of added sugars, in grams, in the diet of all children ages 6- 11 years (N=1040) are in Figure 3., and the mean intake was 69.5 grams. Sweetened beverages such as soft drinks, fruit drinks, and sports and energy drinks, were the top source of added sugars providing 28.7 percent followed by sweet bakery products such as cakes, pies, cookies, brownies, doughnuts, sweet rolls, and pastries, providing 14.9 percent of added sugars. Other sources were: candy 10.5 percent; other desserts such as frozen dairy desserts and pudding 7.9 percent; ready-to-eat cereals 7.1 percent; and flavored milk 5.1 percent.

Figure 3. Comparison of mean amounts of added sugars, in grams, obtained from salient food and beverage sources, by children 6-11 years, grouped by added sugars intake status



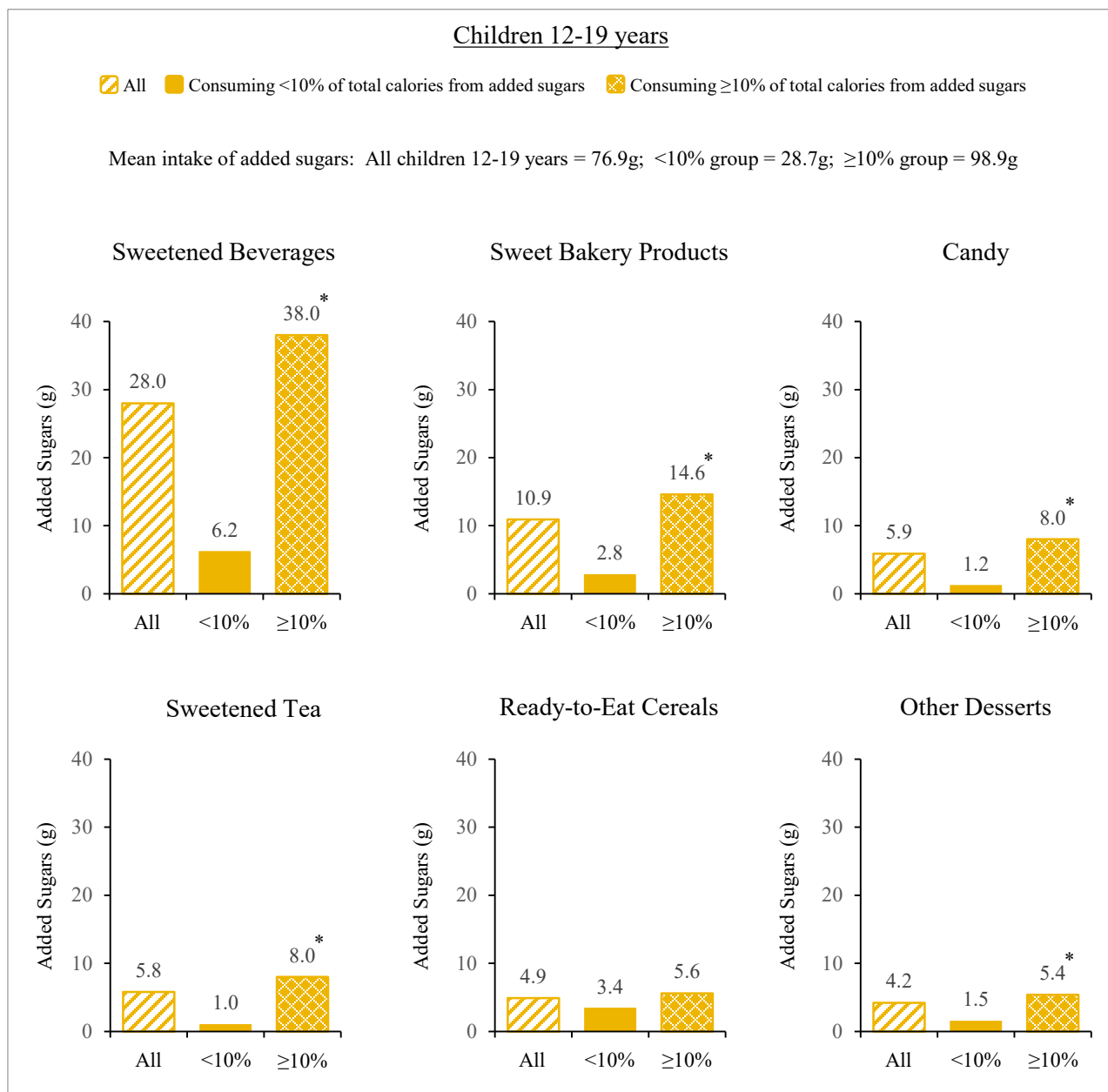
* Means significantly different from each other at p<0.01

DATA SOURCE: WWEIA, NHANES 2015-2016, day 1, children 6-11 years and FPED 2015-2016 (N=1,040)

What are the salient sources of added sugars in the diet of children 12-19 years?

The salient sources of added sugars, in grams, in the diet of all children ages 12-19 years (N=1196) are in Figure 4., and the mean intake was 76.9 grams. Sweetened beverages such as soft drinks, fruit drinks, and sports and energy drinks, were the top source of added sugars providing 36.5 percent followed by sweet bakery products such as cakes, pies, cookies, brownies, doughnuts, sweet rolls, and pastries, providing 14.2 percent of added sugars. Other salient sources were: candy 7.7 percent; sweetened tea 7.5 percent; ready-to-eat cereals 6.4 percent; and other desserts such as frozen dairy desserts and pudding 5.5 percent.

Figure 4. Comparison of mean amounts of added sugars, in grams, obtained from salient food and beverage sources, by children 12-19 years, grouped by added sugars intake status



* Means significantly different from each other at p<0.01

DATA SOURCE: WWEIA, NHANES 2015-2016, day 1, children 12-19 years and FPED 2015-2016 (N=1,196)

What is the implication of the study?

Sweetened beverages such as non-diet soft drinks, fruit drinks, and sport and energy drinks were the top sources of added sugars in the diet of children in the study. The percentage contribution of sweetened beverages to added sugars intake was the lowest among young children 2-5 years and increased in adolescence, from one-fifth to about one-third of total added sugars consumed. This finding underscores the need for dietary intervention to limit added sugars at an early age.

Definition of added sugars

Added sugars are defined as caloric sweeteners that are added to foods as an ingredient during preparation, processing, or at the table. Added sugars do not include naturally occurring sugars such as lactose present in milk and fructose present in fruit and 100% fruit juice. Examples of added sugars include brown sugar, cane sugar, confectioners sugar, dextrose, granulated sugar, white sugar, corn syrup and corn syrup solids, undiluted fruit juice concentrates, honey, molasses, and all types of caloric syrups such as maple syrup, table syrups, and pancake syrup. One teaspoon equivalent of added sugars is defined as 4.2 grams of sugars, the amount present in one teaspoon of granulated sugar. For details on the computation of added sugars and other Food Patterns food groups, see reference #3.

Salient foods and beverages included in selected WWEIA food categories

Sweetened beverages include non-diet soft drinks, fruit drinks, and sports and energy drinks.

Sweet bakery products include cakes, pies, cookies, brownies, doughnuts, sweet rolls, and pastries.

Other desserts include ice creams and frozen dairy desserts, puddings, gelatins, ices, and sorbets.

Candy include candy containing chocolate and candy not containing chocolate.

Sugars added to tea are included in tea; and added sugars added to ready-to-eat (RTE) cereals are included in RTE cereals.

Data sources

(1) What We Eat in America, NHANES 2015-2016, day 1 dietary data were used to estimate Food Patterns equivalents intakes. The study sample included 2901 children, ages 2-19 years (excluding breast-fed children) with complete and reliable intake records in the survey. Sample weights were applied in the analysis to produce nationally representative estimates.

(2) Food Patterns Equivalents Database 2015-2016 and the corresponding dietary intake data sets 2015-2016 provided Food Patterns equivalents intake data, which included added sugars data.

References

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3. Bowman SA, Clemens JC, Shimizu M, Friday JE, and Moshfegh AJ. 2018. Food Patterns Equivalents Database 2015-2016: Methodology and User Guide [Online]. Food Surveys Research Group, Beltsville Human Nutrition Research Center, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Maryland. September 2018. Available at: <http://www.ars.usda.gov/nea/bhnrc/fsrg>. Accessed November 8, 2019.
4. U.S. Department of Agriculture, Agricultural Research Service, Beltsville Human Nutrition Research Center, Food Surveys Research Group, Beltsville, Maryland. WWEIA Food Categories 2015-2016. Available at: <http://www.ars.usda.gov/nea/bhnrc/fsrg> Accessed November 8, 2019.

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Suggested citation

Bowman SA, Clemens JC, Friday JE, Schroeder, N, and LaComb RP. Added Sugars in American Children's Diet: What We Eat in America, NHANES 2015-2016. Food Surveys Research Group. Dietary Data Brief No. 26. December 2019.

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