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Beverage Choices among Children: What We Eat in America, NHANES 2017-2018

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Highlights

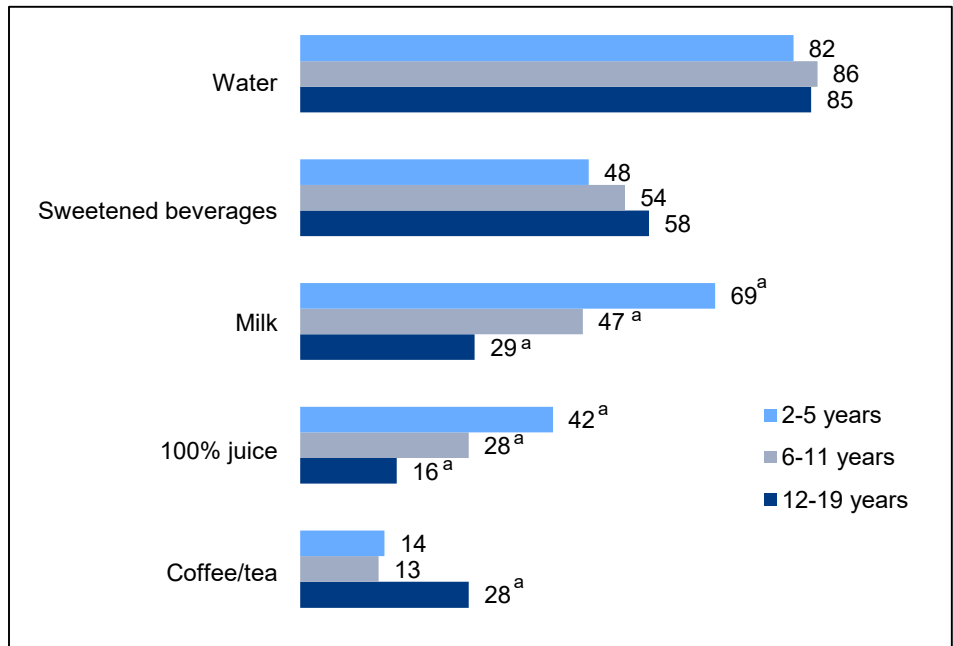
- Water was the most commonly consumed beverage among children followed by sweetened beverages and milk.
- Sweetened beverages were less likely to be consumed by non-Hispanic (NH) Asian children than NH White, NH Black or Hispanic children.
- On any given day, children consumed 5½ cups of beverages, of which more than half was water and about one-third was sweetened beverages.
- Beverages provided 14% of daily energy intake for children and 43% of added sugars.
- Among children, the percentage of calories provided by sweetened beverages increased with age, while the percentage of calories from milk decreased with age.

Beverages, a source of hydration, are an important contributor to energy and nutrients in the diet. This report updates the 2015-2016 (1) results on beverage consumption among U.S. children, ages 2-19 years, using data from What We Eat in America, NHANES 2017-2018. For this report, beverages included liquids consumed as beverages and excluded liquids added to foods, such as milk to cereal.

What beverages did children consume?

Water was the most commonly consumed beverage followed by sweetened beverages and milk. Although overall reports of sweetened beverages did not differ by age, children age 2-5 years reported less soft drinks and more fruit drinks than older children ($p < 0.01$; data not shown). Reports of milk and 100% juice decreased with age. When milk was reported by children, reduced fat milk was the most common choice (about 40% of the time) (data not shown).

Figure 1. Percentage of children who consumed beverages*, 2017-2018



* Beverage groups are defined on page 6.

^a Significantly different than the other two age groups ($p < 0.01$)

SOURCE: WWEIA, NHANES 2017-2018, day 1, individuals 2-19 years



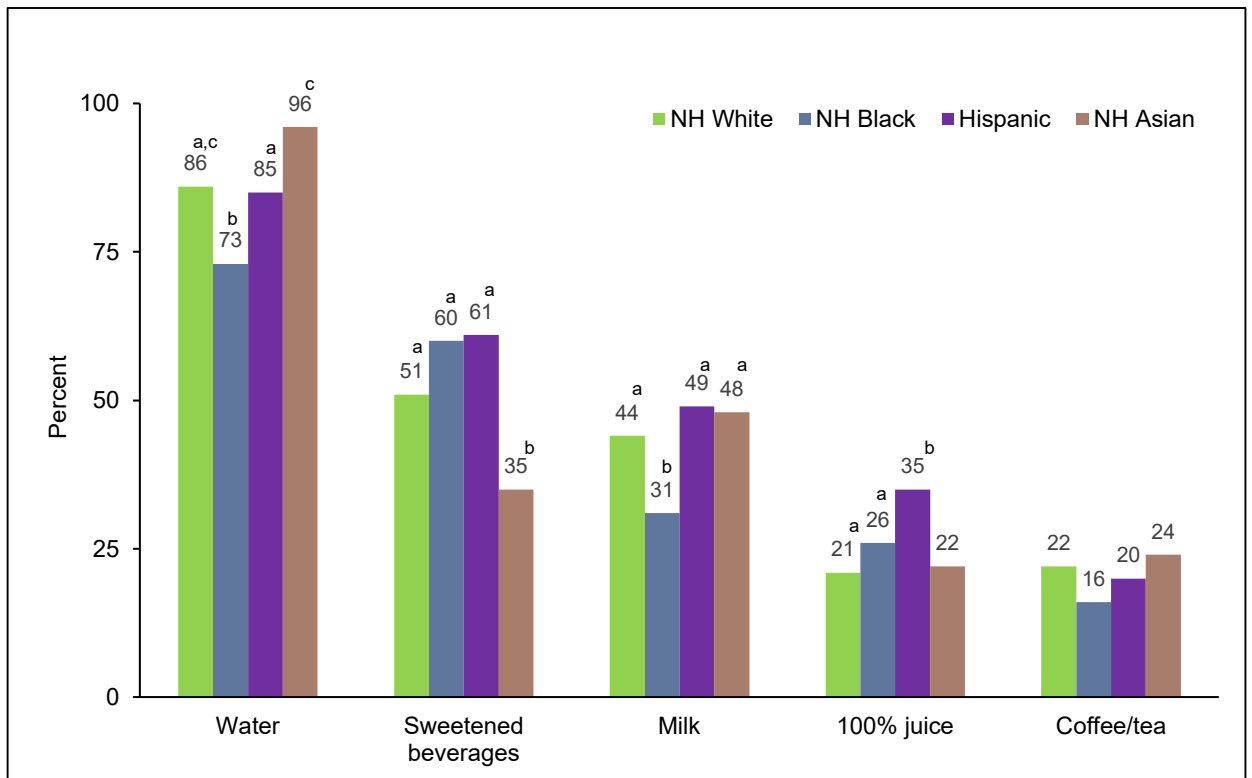
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Were there differences in beverage choice by race and Hispanic origin?

When comparing by race/Hispanic origin, a lower percentage of non-Hispanic (NH) Asian children consumed sweetened beverages than NH White, NH Black, and Hispanic children. Far fewer non-Hispanic Black children drank milk than children of other race/ethnic groups. Significantly more Hispanic children reported drinking 100% juice than NH White or NH Black children.

Figure 2. Percentage of children who consumed sweetened beverages, by race/Hispanic origin, 2017-2018



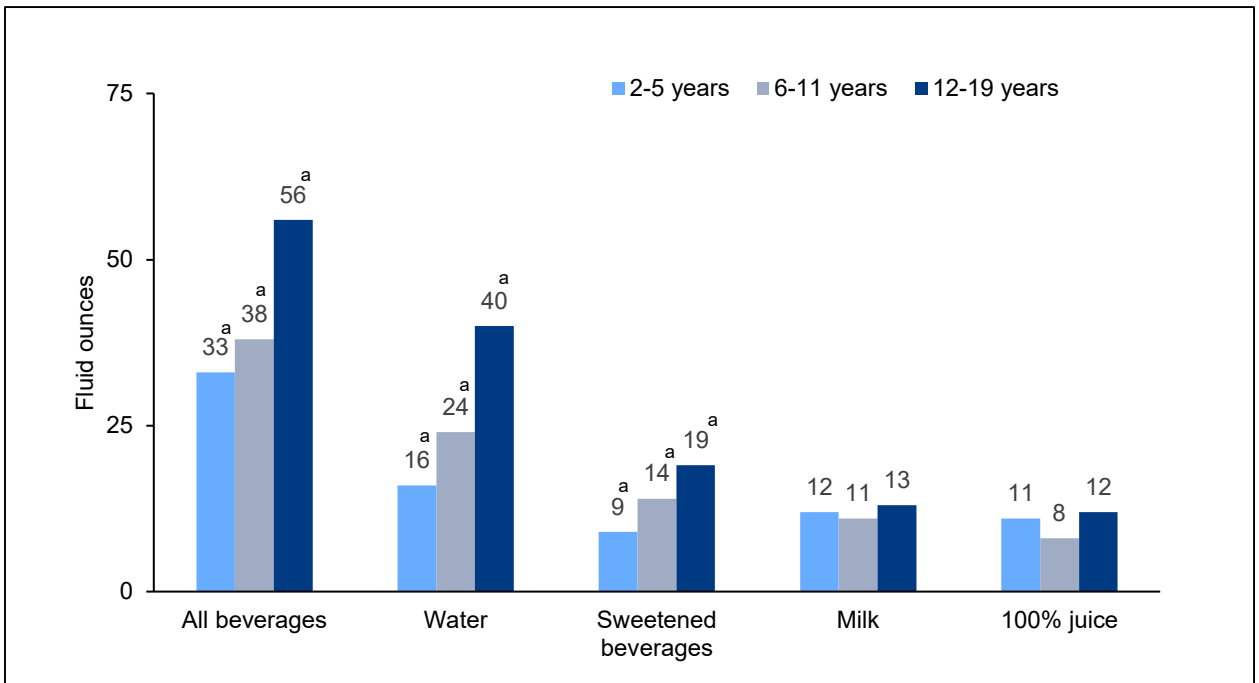
^{a,b,c} Within beverage category, percentages with different superscript letters are significantly different ($p < 0.01$)

SOURCE: WWEIA, NHANES 2017-2018, day 1, individuals 2-19 years

How much did children drink in a day?

Overall, children consumed 45 fl. oz. of beverages or approximately 5½ cups on the intake day, of which at least half was water and about one-third was sweetened beverages (*data not shown*). Mean daily beverage intake increased with age, with the youngest age group consuming approximately 4 cups, and the oldest consuming 7 cups. Among those consuming water and sweetened beverages, daily amounts increased with age.

Figure 3. Mean daily beverage* intake among children consuming each type by age, 2017-2018



* Mean intake for coffee/tea not available because of small sample size of reporters

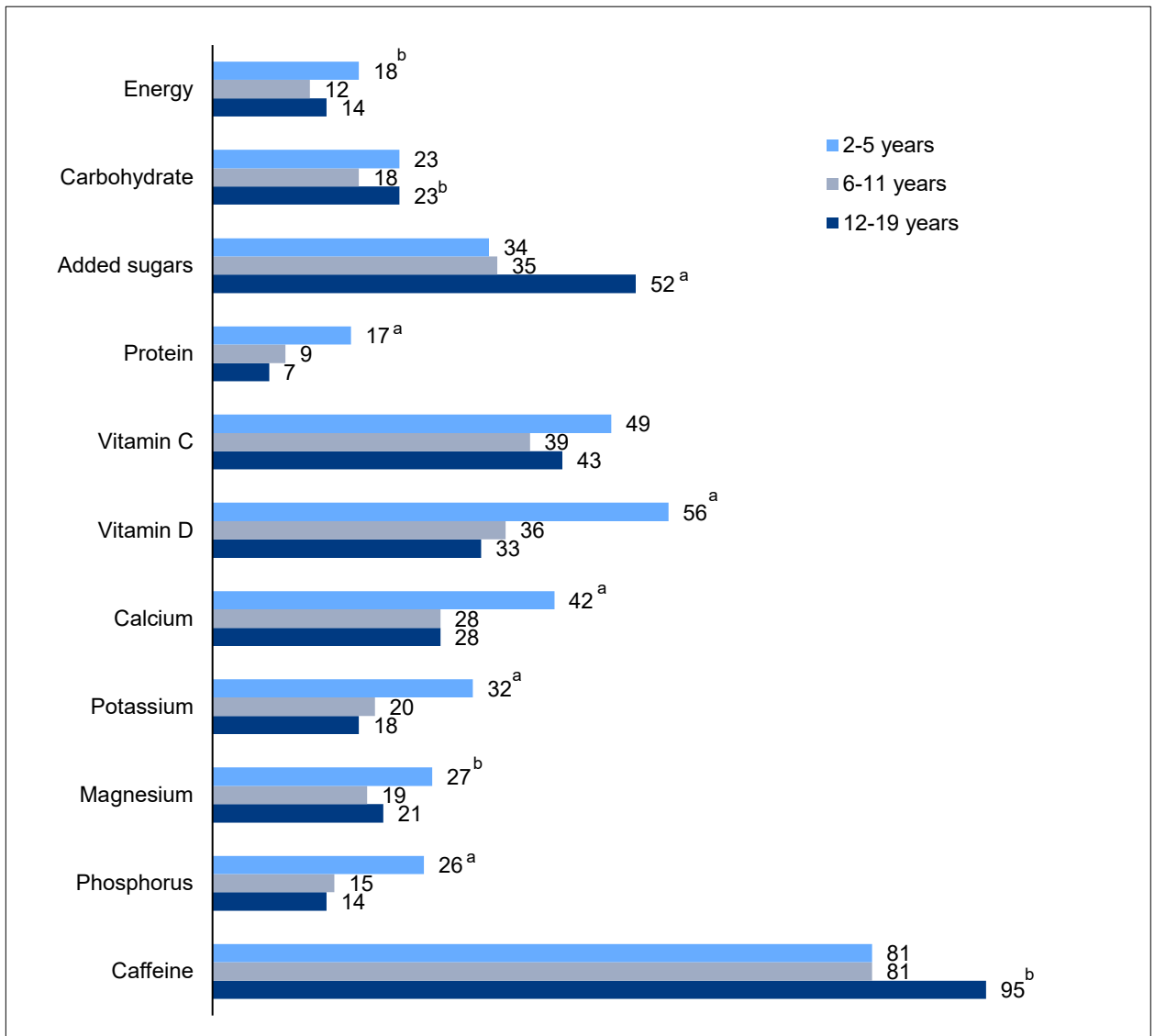
^a Significantly different than other two age groups (p<0.01)

SOURCE: WWEIA, NHANES 2017-2018, day 1, individuals 2-19 years

What percentage of daily nutrients came from beverages?

Overall contribution of beverages to mean daily energy intake for children was 14% and the contribution to added sugars was 43% (*data not shown*). Beverages also contributed large amounts to daily intakes of select vitamins and minerals. Those age 2-5 years obtained greater contributions to daily intake of protein, vitamin D, calcium, potassium, magnesium, and phosphorus from beverages than older age groups, primarily from milk intake. Those age 12-19 years obtained greater contributions to daily intake of added sugars from beverages than younger age groups. Although daily caffeine intake was small (26 mg), most of it was supplied by beverages (*data not shown*).

Figure 4. Percentage of mean daily energy and selected nutrient intakes contributed by beverages among children, 2017-2018



^a Significantly different than the other two age groups ($p < 0.01$)

^b Significantly different than age 6 to 11 years ($p < 0.01$)

SOURCE: WWEIA, NHANES 2017-2018, day 1, individuals 2-19 years

What types of beverages contributed the energy that children consumed?

The percentage of beverage calories provided by sweetened beverages, specifically soft drinks, increased with age. The opposite was true for milk. For the youngest age group, more than half of their beverage calories came from milk, whereas in the oldest age group, almost half of calories from beverages were from sweetened beverages.

Mean daily energy intakes obtained from beverages by age group were: 279 calories (2-5 years), 236 calories (6-11 years), and 289 calories (12-19 years) (*data not shown*).

Table 1. Percent of daily beverage calories by beverage type among children, 2017-2018

Beverage group	2-5 years mean % (SE)	6-11 years mean % (SE)	12-19 years mean % (SE)
Milk	56 (2)^a	42 (2)^a	25 (2)^a
Whole	25 (4) ^a	12 (2) ^a	5 (1) ^a
Reduced fat	16 (2)	15 (2)	9 (2)
Lowfat	9 (3)	6 (1)	3 (1)
Nonfat	3 (1)	4 (1)	3 (<1)
Other milk drinks	3 (1)	5 (2)	5 (2)
100% juice	22 (3)^b	14 (1)	9 (2)
Coffee / tea	4 (1)	6 (1)	15 (2)^a
Coffee	<1 (<1)	1 (<1)	5 (1) ^a
Tea	4 (1) ^b	5 (1)	10 (2)
Sweetened beverages	18 (2)^a	37 (3)^a	46 (2)^a
Soft drinks	5 (1) ^a	16 (2) ^a	28 (2) ^a
Fruit drinks	9 (1)	14 (1)	10 (1)
Sports/energy drinks	4 (1) ^b	6 (<1)	8 (1)

^a Significantly different from other two age groups (p<0.01)

^b Significantly different from 12-19 year old age group (p<0.01)

SOURCE: WWEIA, NHANES 2017-2018, day 1, individuals 2-19 years

Definitions

Beverages: Beverages identified using WWEIA Food Categories including any additions to those beverages (e.g., sugar, milk) and excluded any beverages added to foods such as milk to cereal or water to soup.

Beverage Groups:

Milk: Plain and flavored milk, other milk drinks and milk substitutes.

100% Juice: 100% fruit and/or vegetable juice.

Coffee/tea: Regular and decaffeinated coffee or tea with additions such as milk, cream and/or sweeteners, and coffee and tea drinks, including ready-to-drink.

Diet beverages: Diet soft drinks, diet sport/energy drinks and other diet drinks that are low- and no-calorie-sweetened, containing 40 kcal or less per reference amount customarily consumed.

Sweetened beverages: Energy containing soft drinks, fruit drinks, and sports/energy drinks that contain more than 40 kcal per reference amount customarily consumed.

Soft drinks: Energy-containing drinks made with carbonated water.

Fruit Drinks: Energy-containing fruit and/or vegetable drinks that are not 100% juice.

Sports/energy drinks: Energy-containing sport/energy drinks, nutritional beverages and protein/nutritional powders consumed with a beverage, smoothies and grain drinks.

Water: Tap, bottled, flavored, carbonated and enhanced/fortified water.

Data Source

Estimates in this report are based on one day of dietary intake data collected in *What We Eat in America* (WWEIA), the dietary intake interview component of the National Health and Nutrition Examination Survey (NHANES), in 2017-2018. A total of 2,380 children age 2-19 years (age 2-5 year, n= 540; age 6-11 years, n=795; age 12-19 years, n=1,045) provided complete and reliable dietary intake data. Only in the race-specific analysis, non-Hispanic individuals who were multi-racial or of a racial group other than those listed (240 children) were excluded. Sample weights were applied in all analyses to produce nationally representative estimates. Dietary intake of beverages were collected from an in-person 24-hour recall using the interviewer-administered 5-step USDA Automated Multiple-Pass Method (2). Intakes of energy and nutrients were calculated using the 2017-2018 version of USDA's Food and Nutrient Database for Dietary Studies (3). Intake of added sugars was estimated using the 2017-2018 Food Patterns Equivalents Database (4).

References

1. Moshfegh AJ, Garceau AO, Parker EA, and Clemens JC. Beverage Choices among Children: *What We Eat in America*, NHANES 2015-2016. Food Surveys Research Group Data Brief No. 22. May 2019.
2. USDA Food Surveys Research Group. *AMPM - USDA Automated Multiple Pass Method*. <http://www.ars.usda.gov/nea/bhnrc/fsrg/ampm>. Updated July, 2020.
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