2020 Dietary Guidelines Advisory Committee: DRAFT - Part D. Chapter 10: Beverages

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This chapter includes questions examined by the Beverages and Added Sugars Subcommittee and the Data Analysis and Food Pattern Modeling Working Group

LIST OF QUESTIONS & METHODOLOGY

1. What is the relationship between beverage consumption and achieving nutrient and food group recommendations?
   - Answered using data analyses

2. What is the relationship between beverage consumption and growth, size, body composition, and risk of overweight and obesity?
   - Answered using NESR systematic reviews

Final protocols and draft conclusion statements available at DietaryGuidelines.gov

QUESTION 1: What is the relationship between beverage consumption and achieving nutrient and food group recommendations? Data analysis (1 of 3)

Overview

- Federal data were reviewed for infancy through older adults, including women who are pregnant and lactating
- Analyses reflected the most current NHANES cycle available
- Presented at public meeting #4 and #5

Overall Findings

- Beverages such as 100% fruit juice, plain milk, and plain milk substitutes can contribute positively to under-consumed foods groups (i.e., dairy, fruit) and nutrients (e.g., potassium, calcium, vitamin D)
- Beverages also contribute a substantial amount of energy and added sugars in the diet
  - Contribution to total energy: 13 to 18% across age groups
  - Contribution to added sugars intake: 32 to 58% across age groups
- Soda, fruit drinks, sports and energy drinks, and coffee and tea with their additions are top beverage sources of added sugars
  - SSB contribute the highest percent of energy from beverages to the diet, but typically contribute very little toward meeting nutrient and food group recommendations

QUESTION 1: What is the relationship between beverage consumption and achieving nutrient and food group recommendations? Data analysis (2 of 3)

Infants and Toddlers

- Older infants (6 to 12 mo) consume predominately human milk and/or infant formula; 1/3 consume 100% fruit juice
- Toddlers (12 to 24 mo) consume a greater beverage variety: over half consume 100% juice, and the majority consume cow milk
- 29% of toddlers consume sweetened beverages which account for 27% of added sugars intake

Children

- The proportion of children consuming milk declines with age: 65% for ages 2-5 to 34% ages 12-19
- Milk and 100% juice account for nearly 50% of vitamins C and D for children ages 2-5 and ~40% for older children
- The contribution of SSB to total beverage energy intake increases with age from ~19% to 44%
- Sweetened beverages account for 32% of added sugars for ages 2-5, 39% for ages 6-11, and 49% for ages 12-19

QUESTION 1: What is the relationship between beverage consumption and achieving nutrient and food group recommendations? Data analysis (3 of 3)

Adults

- Water is consumed more than any other beverage type (53 fl oz/d)
- Total volume of daily beverage intake is 88 fl oz for adults ages 20-64 years and reduces to 66 fl oz for adults ages 65 years and older
- About 50% of adults ages 20 to 64 years consume sweetened beverages
- 15% of adults consume diet beverages
- Only 17% of adults ages 20-64 years consume milk or milk substitutes – a slightly higher proportion (21%) of older adults 65+ consume these beverages

QUESTION 2: What is the relationship between beverage consumption and growth, size, body composition, and risk of overweight and obesity? Systematic review (1 of 2)

- Beverage types reviewed:
  - Milk
  - 100% Juice
  - Low and no-calorie sweetened beverages
  - Sugar-sweetened beverages

Literature search date range:
- Milk, 100% Juice, Low and no-calorie sweetened beverages: 2000 - 2019
- Sugar-sweetened beverages: 2012 - 2019

- SSB review included evidence from 2012 through 2019
  - 2015 DGAC reviewed evidence on added sugars and health outcomes through 2012: Intake of added sugars (from food and/or SSB) was associated with excess body weight in children and adults
  - 2020 DGAC focused on SSB and health outcomes rather than analyzing the data as an extension of the 2015 analysis
  - Note: SSB are also considered in *Chapter 12. Added Sugars*
- NESR systematic reviews: 12 draft conclusion statements from 152 unique articles (presented during public meeting #5)

QUESTION 2: What is the relationship between beverage consumption and growth, size, body composition, and risk of overweight and obesity? Systematic review (2 of 2)

- Milk and 100% juice were not associated with indices of adiposity, but the strength of the evidence was limited

- No significant association was observed between LNCSB and adiposity outcomes in children, but LNCSB intake was associated with reduced adiposity in adults (Grade: limited)

- Among the beverage types examined, only SSB intake was associated with greater adiposity (Grade: moderate in children, limited in adults)
  - The majority of studies found a significant effect between SSB and at least 1 adiposity outcome; however, results of different outcome measures within a study often varied, with few studies finding significant associations across all reported outcomes

SUMMARY: Draft Evidence-Based Advice to USDA and HHS

- When nutrient-rich beverages (e.g. milk, 100% juice) are incorporated into the diet, it will be important to be mindful of their contribution to total energy intake
- Recommend only limited intake of SSB
  - Note: SSB are also considered in *Chapter 12. Added Sugars* where additional recommendations relating to added sugars including SSBs are presented
- Although limited evidence, it is important to acknowledge LNCSB may be a useful aid in weight management in adults
- The role beverages play in diet quality and energy balance varies across the life span, so recommendations should be tailored appropriately

SUMMARY: Draft Evidence-Based Advice to USDA and HHS (Future Directions)

- Need for additional research on beverage patterns, which were not examined due to a lack of available literature
  - Defined as the quantities, proportions, variety or combinations of different beverages in the diet

- Beverage intake behaviors are also important factors to consider when developing guidelines
  - Predominant time of day of use, frequency of ingestion, typical and range of portion sizes, and whether they are consumed alone or in association with foods

- Future research should address whether the form of food (solid, liquid) and mode of ingestion (e.g., drink, spoon delivery) hold unique implications for health

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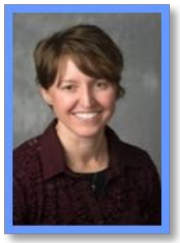

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