



## Maximizing Nutritional & Business Benefits What You Need to Know about the WIC Food Program and 100% Juice

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#### **Disclosure**

- Employed as the Director of Nutrition Communications by Kellen, an association management company.
- Director of Nutrition Communications for the Juice Products Association (JPA).



#### **Goals of the Presentation**

- Understand the health benefits of drinking 100% juice.
- Understand why 100% juice is important for the Women,
   Infant's and Children (WIC) program.
- Learn how 100% juice can address health equity and cultural diversity.
- Provide juice resources and promotional ideas.



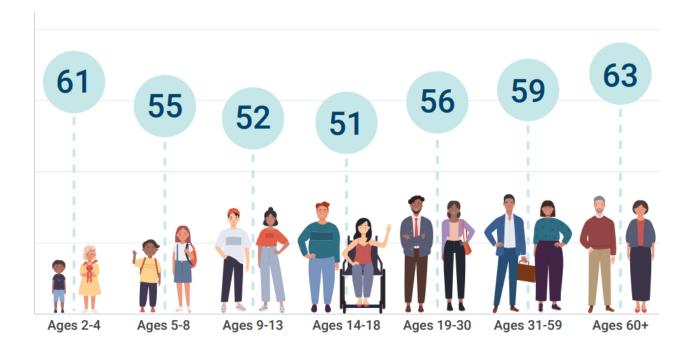






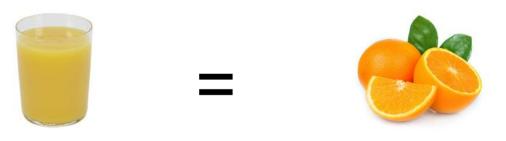
#### Fruit and vegetable consumption is low -

Only 1 in 10 consumers are meeting recommended intakes for fruits and vegetables.





Juice is **included** in the fruit and vegetable group.



½ cup 100% juice

½ cup whole fruit



Juice is one of the **primary beverages** to be consumed along with water and low-fat milk.



Juice is a primary beverage choice



As part of a healthy diet pattern, as much as **half of** your daily fruit intake may come from 100% juice.



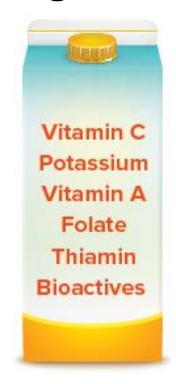




#### What is in 100% Juice?

#### Juice is a **nutrient dense** beverage:

- No added sugar
- Vitamins and minerals
- Vitamin D and calcium in fortified juices





#### What is in 100% Juice?

Juice contains a range of beneficial **bioactives** such as:



- Polyphenols
- Flavonols
- Carotenoids
- Resveratrol
- Anthocyanins



## **IMPACT ON DIET AND HEALTH**



#### **Better Diet Quality**

Drinking 100% juice is associated with long term, **better diet** quality.





#### **Higher Fruit and Vegetable Intake**

## Drinking 100% juice is associated with **higher** fruit and vegetable intake.





Drinking 100% fruit juice does NOT increase risk of chronic illness or overweight, obesity, in children or adults.

### **Drinking Juice** Does Not Impact...



Weight status in children



100% fruit juice does NOT contribute to dental health in children and adolescents.

Drinking Juice
Does Not Impact...





#### Juice contains beneficial nutrients that can help

- Reduce risk of:
  - √ Cardiovascular disease
  - ✓ Age-related macular degeneration
  - ✓ Urinary tract infection
- Aid in:
  - ✓ Neurocognitive function
  - ✓ Exercise performance





# Juice helps with immunity and mental health

nutrients

#### Keep Your Immunity Strong: SipSmarter with 100% Juice



Registered dietitians know good health means more than just eating right. It also means getting regular exercise, proper sleep and reducing stress. The immune system is complex, and it needs a constant supply of many essential nutrients to support its function. Drinking 100% juice daily, in appropriate amounts, can help. One hundred percent juices may contain several nutrients that can ald in maintaining and supporting your immunity. These include:



Vitamin C - Vitamin C is a water-soluble vitamin that is essential for the normal function of the immune system. It promotes the production and protection of immune cells, reduces oxidative stress and enhances beneficial immune cell activities. Since the body stores little vitamin C, this nutrient must be replenished regularly.



Potassium, folate and thiamin - The immune system is complex and highly integrated and therefore requires the participation of virtually every macro- and micronutrient to help support innate and acquired immunity functions.<sup>10</sup> These three nutrients along with others found in juice, like vitamin B6 and magnesium, can help support overall immune function.



Vitamin D - Vitamin D is known to enhance and regulate normal immune response, which helps the body protect against harmful bacteria and viruses. If also has anti-inflammatory properties. Low levels are linked to increased risk of respiratory illness. In 100% juices that are fortified with vitamin D to help contribute meaningful amounts of this vitamin to the diet.



Bioactives - Bioactives, like carotenoids, polyphenols and anthocyanins are beneficial plant compounds

d enhance immunity by es contain similar bioactives to active intake in the US diet. (10)



ou can focus. Staying well 1-water content and are an ideal t the day.

Article

## Association of 100% Fruit Juice Consumption with Cognitive Measures, Anxiety, and Depression in US Adults

Sanjiv Agarwal <sup>1,\*</sup>, Victor L. Fulgoni III <sup>2</sup> and Paul F. Jacques <sup>3</sup>

- Gombart Ar, Pierre A, Maggini S. A review of micronutrients and the immune system-working in harmony to reduce the risk of infection. Nutrients. 2020;12(1):236.
- Lang PO, Aspinall R. Vitamin D status and the host resistance to infections: what it is currently (not) understood. Clin Ther. 2017;39(5):930-945.
- Hughes DA, Norton R. Vitamin D and respiratory health. Clin Exp Immunol. 2009;158(1):20-25.
- Vin Tangpricha, Polyxeni Koutkia, Suzanne M Rieke, Tai C Chen, Alberto A Perez, Michael F Holick, Fortification of orange juice with vitamin D: a novel approach for enhancing vitamin D nutritional health, The Amer J of Clin Nutr. 2003;77(6):1478–1483.

Communications

ss Bibuld, Mona H Cai, Michael R Winter, Ellen K imeh, Tai C Chen, Michael F Holick, Fortification D3 is as effective as an oral supplement in Amer J of Clin Nutr. 2010;91(6): 1621–1626.

Effect of flavonoids on upper respiratory stematic review and meta-analysis. Adv Nutr.

icine. Dietary Reference Intakes for Vitamin C, shington, D.C.: National Academy Press; 2000:325-

- Ho KKHY, Ferruzzi MG, Wightman JD. Potential health benefits of (poly)phenois derived from fruit and 100% fruit juice. Nutr Rev. 2020 Feb 1;78(2):145-174.
- Food and Nutrition Board, Institute of Medicine. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. Washington, D.C.: National Academy Press, 2005;73-166.

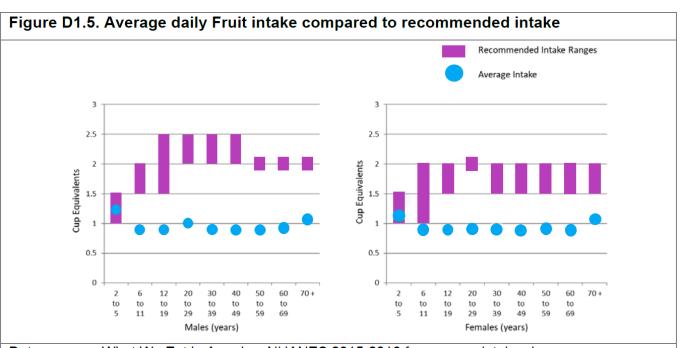




# JUICE IN THE WOMEN, INFANTS AND CHILDREN FOOD PACKAGE



#### 2020 Dietary Guidelines Advisory Committee Report



Data sources: What We Eat in America, NHANES 2015-2016 for average intakes by age-sex group. USDA Healthy U.S.-Style Eating Style recommended intake ranges, which vary based on age, sex, and activity level for recommended intakes. 2015-2020 Dietary Guidelines for Americans.



Fruit and vegetable eating occasions continue to decline.

10%
decline in overall fruit & vegetable eating occasions (since 2004)

This decline is driven by drops in vegetable and juice eating occasions.



Juice 15% From 2015-2020, consumption declined by 3%, indicating that the trend is worsening every year.



Children 1-3 years old eat FRUIT most often, yet declined the most in the past 5 years.

All forms make a difference



- Vitamin C
  - ✓ Number one source
  - ✓ Aids in iron absorption
- Potassium
- Vitamin A, folate,
   vitamin B1
- Healthy beverage
- Hydration





A longitudinal study of fruit juice consumption during preschool years and subsequent diet quality and BMI

By Li Wan, Lynn Moore et. al. **BMC Nutrition** May 2020

Preschool children consumption of 100% juice is associated with higher intakes of whole fruit and total fruit and better diet quality through childhood and into middle adolescence without adversely impacting weight gain.

- Preschoolers who drank more 100% fruit juice were nearly 4
  times as likely to meet current Dietary Guideline
  recommendations for whole and total fruit intake during
  adolescence than those preschoolers with low intakes.
- Juice drinkers also had higher HEI (Healthy Eating Index)
   scores compared to non-drinkers





Juice is a **convenient**, **affordable** and easily **accessible** way to obtain daily fruit servings.





#### Juice in the WIC Food Package is working

- A recent study published by the Academy of Nutrition and Dietetics looking at long term WIC participation and diet quality in 24-month-old children found children who were on WIC for the first two years of life had significantly better diet quality and higher Healthy Eating Index scores than those children who left WIC during infancy.
- There is no evidence suggesting that removing or reducing 100% fruit juice in the WIC packages would lead to families choosing more whole fruit or enjoying healthier diets.
- According to NHANES 2011-2012 data, despite a decrease in the juice allowance
  and the introduction of a cash voucher for fruits and vegetables, there have been
  no improvements in total fruit or whole fruit intake among WIC-participating
  families since changes to the WIC program were made in 2009.



## CULTURAL DIVERSITY AND HEALTH EQUITY



#### Juice Fills a Need

100% juice is **culturally relevant and may be preferred by WIC participants**. For example, juice is a preferred choice in some Latino cultures, and particularly for those groups that are lactose intolerant.





#### Juice Fills a Need

Juice helps with health equity. This is true for certain rural communities and native tribal areas which may not have access to clean water or proper refrigeration.









#### Juice Fills a Need

Juice helps with health equity. In densely populated urban areas, the USDA estimates that over 33% of low-income individuals live more than a mile away from the nearest grocery store. And weather issues, due to climate change and supply chain issues, have exacerbated the issue.







#### References

- 1. Lee SH, Moore LV, Park S, Harris DM, Blanck HM. Adults Meeting Fruit and Vegetable Intake Recommendations United States, 2019. MMWR Morb Mortal Wkly Rep 2022;71:1–9. DOI: http://dx.doi.org/10.15585/mmwr.mm7101a1external icon
- 2. 2020 PBH STATE OF THE PLATE: America's Fruit & Vegetable Consumption Trends © 2021 Produce For Better Health Foundation
- 3. 2020-2025 Dietary Guidelines for Americans.
- 4. Scientific Report of the 2020 Dietary Guidelines Advisory Committee.
- 5. Rossi, I., Mignogna, C., Del Rio, D., & Mena, P. (2023). Health effects of 100% fruit and vegetable juices: Evidence from human subject intervention studies. *Nutrition Research Reviews.* 1-45. doi:10.1017/S095442242300015X
- 6. Crowe-White K. et. al "Impact of 100% Fruit Juice Consumption on Diet and Weight Status of Children: An Evidence Based Review" Crit Rev in Food Sci and Nutr, Aug 2016, 56(5), 871-884.
- 7. O'Neil CE, Nicklas TA, and Kleinman R. Relationship between 100% juice consumption and nutrient intake and weight of adolescents. *Am J Health Promot*. 2010; 24(4), 231-237.
- 8. Kelley LD and Mah E "100% Fruit Juice and Dental Health: A Systematic Review of the Literature" Front Public Health, July 2019, 7:190-196.
- 9. Keast et. al. Food Sources of Energy and Nutrients among Children in the United States: National Health and Nutrition Examination Survey 2003–2006. *Nutrients* 2013; 5:283-301 and Supplemental Data for Vitamin C.
- 10. Brauchla, M.; Dekker, M.J; Rehm, C.D. Trends in Vitamin C Consumption in the United States: 1999–2018. Nutrients 2021, 13, 420-435.
- 11. Ho KKHY, Ferruzzi MG, Wightman JD. Potential health benefits of (poly)phenols derived from fruit and 100% fruit juice. Nutrition Reviews. 2019;78(2):145-174.
- 12. Nicklas TA. et. al. "Consumption of 100% fruit juice is associated with better nutrient intake and diet quality but not with weight status in children: NHANES 2007-2010. Internat'l J of Child Health and Nutri, May 2015; vol 4: 112-121.
- 13. Wan, L., Jakkilinki, P.D., Singer, M.R. et al. "A longitudinal study of fruit juice consumption during preschool years and subsequent diet quality and BMI" BMC Nutr 2020: 6(25).
- 14. Agarwal S, Fulgoni VL 3rd, Jacques PF. Association of 100% Fruit Juice Consumption with Cognitive Measures, Anxiety, and Depression in US Adults. Nutrients. 2022 Nov 15;14(22):4827. doi: 10.3390/nu14224827. PMID: 36432514; PMCID: PMC9696008.
- 15. Moore LL, Zhou X, Wan L, Singer MR, Bradlee ML, Daniels SR. Fruit Juice Consumption, Body Mass Index, and Adolescent Diet Quality in a Biracial Cohort. Beverages. 2023
- 16. Weinfield, Nancy S et al. "Longer Participation in WIC Is Associated with Better Diet Quality in 24-Month-Old Children." *Journal of the Academy of Nutrition and Dietetics* vol. 120,6 (2020): 963-971.
- 17. Produce for Better Health Foundation: The Impact of Policy Recommendations with Limiting and Inclusive Language on Consumers Perceptions and Intent to Purchase, Fresh and Packaged Forms of Fruits & Vegetables. 2015.
- 18. Brauchla, Mary, and Victor Fulgoni, III. "Cost-Effective Options for Increasing Consumption of Underconsumed Food Groups in the United States." *Current Developments in Nutrition* vol. 4,Suppl 2 706. 29 May. 2020.
- 19. Rhone, Alana, Ryan Williams, and Christopher Dicken, June 2022. Low-Income and Low Foodstore-Access Census Tracts, 2015–19, EIB-236, U.S. Department of Agriculture, Economic Research Service.
- 20. Nicklas, TA, O'Neil CE and Fulgoni VL "Evaluating the Impact of the Revised Special Supplemental Nutrition Program for Women, Infants, and Children Fruit Juice Allotment on Fruit Intake, Dietary Quality, and Energy/Nutrient Intakes among Children 1-4 Years of Age." Internat'l J of Child Health and Nutri, 2018; vol 7(4): 146-156.12-121.





- Nutrition Information
- Research
- Juice Processing
- Press Releases
- Recipes



**About Juice** 

Explore our encyclopedia to learn everything you need to know about juice, from how it's made to how it can help fuel your day!

About Juice ▼



Recipes

Research & Resources

**Health & Nutrition** 

Health & Nutrition

Juice not only tastes good, it's good for you! 100% juice is a convenient and affordable way to boost your intake of fruits and vegetables. Learn more about what juice can do for you.



Juice News -

**Latest Research** 

Despite the misinformation that can arise, it is important to focus on the scientific facts around 100% juice. Browse our resources to learn more about juice.





- Infographics and Fact Sheets
- Dietitian newsletter
- Visit sipsmarter.org

#### **Keep Your Immunity Strong:** SupSmarter with 100% Juice

reguesters untrouten survey good invention means more than just earing right. It also means getting regular exercise, proper sleep and reducing stress. The immune system is complex, and it needs a constant supply of many essential nutrients to support its function. Drinking 100% jude daily, in appropriate amounts, can help. One hundred percent judices may contain several nutrients that can aid in maintaining and supporting your immunity. These include:



Vitamin C - Vitamin C is a water-soluble vitamin that is essential for the normal function of the immune system. ™ It promotes the production and protection of immune cells, reduces oxidative stress and enhances beneficial immune cell activities. Since the body stores little vitamin C, this nutrient must be Potassium, folate and thiamin - The immune system is complex and highly integrated and therefore requires the participation of virtually every macro: and micronutrient to help support innate and acquired immunity functions.<sup>37</sup> These three nutrients along with others found in juice, like vitamin B6 and magnesium, can help support overall immune function.



Vitamin D - Vitamin D is known to enhance and regulate normal immune response, which helps the body protect against harmful bactoria and viruses. "It also has anti-inflammatory properties. Low levels are linked to increased risk of resiptatory lilenses. \*\*(Look for 100% judes that are fortified with vitamin D to help contribute meaningful amounts of this vitamin to the diet.\*\*In



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Water - Proper hydration plays a key role in supporting the body's daily activities and helps ensure your body works efficiently, it also keeps you energized and clear-headed so you can focus. Staying well hydrated is vital during illness and recovery. "MI 100% juices have a high-water content and are an ideal way to rehydrate after exercise and stay hydrated and healthy throughout the day.

#### **IMPORTANCE OF 100% JUICE**

- Research shows consumers that eat a variety of fruits and vegetables in all forms have higher total intakes than those
- etter quality diets and higher total fruit
- The 2020 Dietary Guidelines state

#### tritional Impact

0% juice is a nutrient-dense beverage

inking 100% juice, in appropriate



#### Consumer Economic Impact Juice is an easy, convenient, accessible, and cost-effective way for both chile

to obtain their daily fruit servings. It is available year-round and nationwide. It true for families on a budget or those receiving food assistance, as they are identify access, affordability and higher levels of waste as barriers to fresh fruit an



#### **Juice Promotion Ideas**

- Mocktails
- Cocktails



Rosemary Grape 'Rita



Pomegranate Moscow Mule



#### **Juice Promotion Ideas**

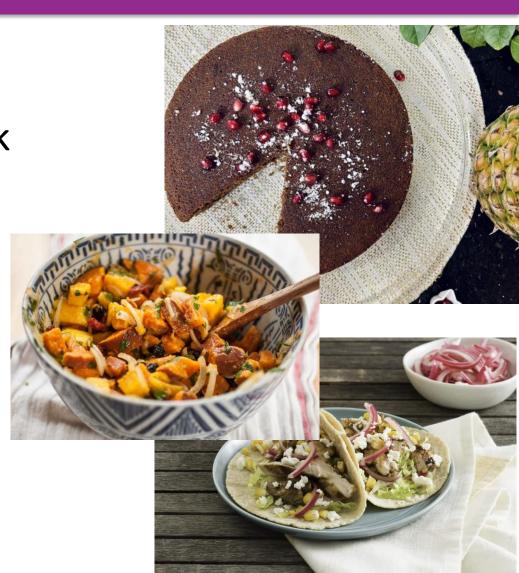
- Party punch
- Holiday get-togethers





#### **Juice Promotion Ideas**

- More than just a drink
  - Marinades and salad dressings
  - Glazes
  - Baked goods
  - Soups and side dishes





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