

H2O Soft Seltzer & Water-Based Beverages Hydration

Subjects: Agriculture, Dairy & Animal Science

Contributor: Angelos Sikalidis

H2O Sonoma Soft Seltzer is a non-alcoholic water-based beverage, that is infused with the juice of varietal wine grapes, dealcoholized wine, and flavor extracts.

The Beverage Guidance System has established dietary recommendations for daily intake of commonly consumed beverages including water, tea, coffee, milk, non-calorically sweetened beverages, and calorically sweetened beverages. As obesity in America continues to be a growing problem, this guidance becomes of increasing importance due to many beverages' potential links to Type 2 Diabetes Mellitus (T2DM), Cardiovascular disease (CVD), and numerous other harmful health effects. However, the growing popularity of "better for you" beverages is causing a shift in the market, with consumers requesting healthier beverage options. Beverages simultaneously present advantages while posing concerns that need to be evaluated and considered. Current trends of the beverage market such as the novel Soft Seltzer category as an alternative to Hard Seltzer and various mashups emerge.

Keywords: Soft Seltzer ; H2O ; Hydration ; Functional beverage

1. Background

Due to notable negative health effects of soda and similar soft drinks, consumer demand has been high and sustained for alternative tastes and products addressing multiple consumer needs including improved dietary intake. One such product is sparkling water, which has experienced a popularity boom in the past 10 years. In fact, in 2009, 400 million liters of sparkling water was sold in the United States. By 2019, that number almost doubled, reaching just under 800 million liters sold, while projections predict a continued increase in demand for sparkling water and/or sparkling water-based beverages ^[1].

2. Hydration Capabilities of Sparking Water

It appears that sparkling water may have more to offer than simply the "it tastes good" and "it has no negative health effects" often mentioned by consumers. While not thoroughly studied, it is believed to hydrate as well, if not better than, water, considering the better electrolyte levels and may be notably effective in decreasing intestinal distress ^[2]. To investigate this concept, Rosario et al. evaluated the effects of carbonated water on patients with dyspepsia and secondary constipation. More specifically, 21 patients were randomly assigned to two groups- tap water or carbonated water and consumed the respective water exclusively for 15 consecutive days. It was found that dyspepsia was significantly reduced in the carbonated water group when compared to the control (tap-water), and constipation was reduced as well. Satiety scores were also recorded and were found significantly reduced in the carbonated water group. The authors thus concluded that carbonated water may be effective at reducing dyspepsia and constipation and may decrease hunger as well ^[2]. Similarly, 19 healthy women participated in a study investigating carbonated water on appetite sensation. Women were assigned water (tap-water), carbonated water, or no beverage to consume after an overnight fast. Gastric motility and fullness levels were then recorded after consumption. It was found that carbonated water resulted in increased fullness scores and an improved satiating effect ^[3]. Weight loss was not recorded, but carbonated water may be useful at appetite suppression and thus possibly support weight loss efforts ^[3]. Eight male volunteers participated in an intermittent cycle exercise experimental study to explore hydration effects of carbonated water. Within 30 min of exercise completion, they consumed one of the following four drinks: (A) a glucose solution, (B) a sodium chloride drink, (C) a potassium chloride drink, (D) a solution of glucose, sodium chloride, and potassium chloride. Both potassium chloride and sodium chloride are commonly found in sparkling water. Individuals then underwent electrolyte analysis to determine rehydration effects of the beverages. It was found that ingestion of beverage A resulted in higher urine output and a greater net negative fluid balance the following day in comparison to all other beverages, hinting at the idea that glucose is not effective at rehydration, and may be functionally diuretic. Beverages B and D resulted in the lowest net negative sodium balance the following day, and negative potassium balance was greater after consumption of

beverage A and B. Therefore, it is evident that those beverages that contained electrolytes (i.e., B, C, D) appeared to hydrate better than beverages that did not [4]. While this is a small sample size, it does suggest that carbonated water can potentially offer better hydration compared to tap water.

3. Potential Negative effects of Carbonated Water Consumption

While it seems that carbonated water hydrates as well as water and may be beneficial for various reasons, some sensitive groups may wish to limit their intake. Individuals experiencing overactive bladder are recommended to decrease carbonated beverage intake. A total of 6,424 women over 40 years old participated in a survey analyzing urinary symptoms and their connection to carbonated beverage intake (including water), as well as tea, coffee, wine, beer and fruit juice. It was observed that women who drank as little as one carbonated beverage per week had an elevated risk of stress incontinence (SI), and those who consumed a carbonated beverage daily had an almost 2X higher risk of SI than those who consumed daily. Consumption of carbonated beverages also increased risk of overactive bladder onset, although risk was not as high as that for SI [5]. Therefore, while carbonated beverages may be beneficial for hydration and by extension overall health, they may negatively affect certain individuals who should monitor consumption to minimize potential symptoms. Another consideration with carbonated water as an alternative to tap water is in relation to fluoridation, especially for young children. Given that tap water is typically fluoridated in the US it may be beneficial for better support of dentition in early ages when children are still being trained in terms of oral hygiene and optimal habits [6] while carbonated water is not fluoridated. The combination of novelty and health in new beverage proposals may be in line with the needs and desires of the modern food scene and consumer demand [7].

4. Water-based beverages; the H2O Soft Seltzer

Sparkling water-based beverages with natural added ingredients are emerging as novel drinks with significant consumer traction as they are claiming a niche at the intersection of safe, healthy, and enjoyable drinks. Moreover, when such sparkling water-based drinks are infused with vitamins, natural antioxidants, and/or other natural bioactive compounds that have established benefits, those constitute good options for health-conscious consumers interested in novel drinks with functionality. Other options include the addition of amino acids for support of special groups such as athletes or elderly at risk for sarcopenia [8]. It has been proposed that appropriate beverages can potentially address existing micronutrient gaps in the population, enhance phytonutrient intake, and reduce the risk for chronic disease [9]. Thus, consumers are able to receive the advantages of sparkling water with additional possible health benefits without the concerns of “diet” products with artificial constituents and preservatives. There are interesting recent efforts such as the H2O/H2O novel Soft Seltzer, non-alcoholic seltzer flavored with dealcoholized wine, from Sonoma, California [10]. This constitutes a promising example of such a modern approach [10], as an alternative to hard seltzers [11] containing alcohol such as White Claw introduced in 2016 [12]. Other examples of novel beverages include the mashups category whereby coffee or non-alcoholic wine are carbonated.

References

1. Clean Water Space Sparkling Water Is the New Soda. Available online: http://www.cawaterinfo.net/all_about_water/en/?p=4410 (accessed on 10 July 2020).
2. Cuomo, R.; Grasso, R.; Sarnelli, G.; Capuano, G.; Nicolai, E.; Nardone, G.; Pomponi, D.; Budillon, G.; Ierardi, E. Effects of carbonated water on functional dyspepsia and constipation. *Eur. J. Gastroenterol. Hepatol.* 2002, 14, 991–999, doi:10.1097/00042737-200209000-00010.
3. Wakisaka, S.; Nagai, H.; Mura, E.; Matsumoto, T.; Moritani, T.; Nagai, N. The Effects of Carbonated Water upon Gastric and Cardiac Activities and Fullness in Healthy Young Women. *J. Nutr. Sci. Vitaminol.* 2012, 58, 333–338, doi:10.3177/jnsv.58.333.
4. Maughan, R.J.; Owen, J.H.; Shirreffs, S.M.; Leiper, J.B. Post-exercise rehydration in man: Effects of electrolyte addition to ingested fluids. *Eur. J. Appl. Physiol. Occup. Physiol.* 1994, 69, 209–215, doi:10.1007/BF01094790.
5. Dallosso, H.M.; McGrother, C.W.; Matthews, R.J.; Donaldson, M.M.K. The association of diet and other lifestyle factors with overactive bladder and stress incontinence: A longitudinal study in women. *BJU Int.* 2003, 92, 69–77, doi:10.1046/j.1464-410X.2003.04271.x.
6. Available online: https://www.cdc.gov/oralhealth/basics/childrens-oral-health/fl_caries.htm (accessed on 4 August 2020).

7. Sikalidis, A.K. From food for survival to food for personalized optimal health. A historical perspective of how food and nutrition gave rise to nutrigenomics. *J. Am. Coll. Nutr.* 2019, 38, 84–95, doi:10.1080/07315724.2018.1481797.
8. Maykish, A.; Sikalidis, A.K. Utilization of Hydroxyl-Methyl Butyrate, Leucine, Lysine, Glutamine and Arginine Supplementation in Nutritional Management of Sarcopenia—Implications and Clinical Considerations for Type 2 Diabetes Mellitus Risk Modulation. *J. Pers. Med.* 2020, 10, 19, doi:10.3390/jpm10010019.
9. Ferruzzi, M.G.; Tanprasertsuk, J.; Kris-Etherton, P.; Weaver, C.M.; Johnson, E.J. Perspective: The Role of Beverages as a Source of Nutrients and Phytonutrients. *Adv. Nutr.* 2020, 11, 507–523, doi:10.1093/advances/nmz115.
10. H2O/ H2O Seltzer 0.0%—The World's 1st Wine-Infused Soft Seltzer—No Alcohol Soft Seltzer|The World's 1st Wine-Infused Sparkling Beverage with 0.0% Alcohol—Sonoma, CA, 95452. Available online: <https://h2oseltzer.com/> (accessed on 17 July 2020).
11. Hard Seltzer. Available online: https://en.wikipedia.org/wiki/Hard_seltzer#cite_note-7 (accessed on 2 August 2020).
12. Available online: https://locator.whiteclaw.com/?gclid=Cj0KCQjwyJn5BRDrARIsADZ9ykHmZNmly7mTS0PTWBDSGe-AI0vIlvxxANqCykxRJIRL7PElVanWtf4aAruHEALw_wcB (accessed on 2 August 2020).

Retrieved from <https://encyclopedia.pub/entry/history/show/49702>