**PAESTA Podcast Series  --  You Asked, We Answered!**

**Episode 35 -- Bottled vs. tap water, which is better?**

Kelly Gallagher, undergraduate student, Penn State Brandywine

Hi, today I am going to talk to you about water. Many people have asked the question, ‘which is better, tap or bottled water’? I know I have wondered and asked this question many times, and I did some research to find out the answer. Let’s first talk about who regulates what, when it comes to tap and bottled water. The Food and Drug Administration or, FDA is responsible for regulating bottled water. They regulate the bottle water factories, transportation, and protects water sources from bacteria and chemical contaminates. [1] The Environmental Protection Agency or, EPA is responsible for regulating tap water. The Safe Water Drinking Act, which was put into place in 1974, makes sure that tap water is also free of any bacteria and chemical contaminates. [2]

 Since both bottled and tap water are both regulated and tested for chemicals and bacteria, the only real difference between the two is the taste. Some people say that bottled water tastes better, and this is because some bottled water companies add chemicals to “improve” the taste. [3] If you look at the ingredient list for some bottled water, it may surprise you. The chemicals that can be added are magnesium sulfate, potassium chloride, and salt. Bottled water companies are purifying water, but they are also adding things back in. It has also been found that these chemicals they are adding back in are naturally found in tap water and from food that we eat on a daily basis. [4] There have been some media coverage and popular debates about contaminated water. In 2014 Flint, Michigan’s public water supply was contaminated. Canada, Pennsylvania and California have all had water contamination issues. In California, there was metal found in their water, which could lead to long term health risks if ingested for a long period of time. [5] In some parts of Pennsylvania, tap water had high amounts of chemicals that could lead to obesity, high cholesterol and even some cancers. The chemicals that were found have been around for 60 years, and they are man made chemicals that degrade very slowly in the environment. A professor in the department of environmental health at the University of Cincinnati, said that Americans should be concerned about these chemicals. The problem with these chemicals is that they stay in your body for a long time, which is about 3.5 years. [6] Bottled water has also led to some health complications because of plastic contamination. There have been some incidences of bottled water showing that the resins used can contaminate the water. This can also cause serious health problems if ingested over a long period of time. Small children, women of child-bearing age, and pregnant women are at greater risk of poor outcomes when exposed to these chemicals. These poor outcomes have shown that it can stunt growth, promote early puberty and premature birth. [7]

Because of the plastic being used for bottled water, researchers and scientists urge people to use refillable water bottles or stop using plastic bottled water completely. This will also eliminate the plastic waste that has consumed our planet. One hundred billion dollars is spent annually on bottled water globally. The transportation of bottled water also contributes to gas emissions that is polluting our atmosphere. [8] Bottled water is the second most popular beverage in the U.S., with Americans consuming 7.5 million gallons of bottled water. Bottled water consists of mineral, sparkling, purified and spring water. [1] What’s better for the environment is to get rid of plastic bottles, when millions of tons of plastic bottles are clogging up landfills across the United States. Because there are so many concerns about the health of the tap-water quality, it has made the plastic water bottle industry soar [9].

Lastly, because both bottled water and tap water are so heavily regulated, it comes down to personal preference. Some people like the taste of bottled water better than tap. But after doing research, tap water is just as free of chemical and bacteria contaminates as bottled water. In 1999, the NRDC did a four-year survey that showed there is no assurance that bottled water is cleaner or safer than tap water. It has been estimated that at least 25% or more of bottled water is actually just tap water in a bottle. 22 brands of bottled water were tested and had chemical limits that were higher than state health limits. [9] Thank you for listening, and I hope you enjoyed this podcast about bottled vs. tap water and which one is better!

*This audio file was recorded by Cindy Gallagher on November 10, 2016*

Works Cited

[1] FDA. (2016, April 4). Consumers - FDA Regulates the Safety of Bottled Water Beverages Including Flavored Water and Nutrient-Added Water Beverages [WebContent]. Retrieved September 17, 2016, from <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm046894.htm>

[2] Kelly, D. (2013, November 27). Is bottled water safer? - CNN.com. Retrieved September 6, 2016, from <http://www.cnn.com/2013/11/19/health/upwave-bottled-water/index.html>

[3] Berman, N. (2016, September 15). Why You Should Never Drink Bottled Water Again. Retrieved September 30, 2016, from <http://www.ecowatch.com/tap-water-vs-bottled-water->

[4] Stanek, B. (2014, July 24). Why Your Bottled Water Contains Four Different Ingredients. *Time*. Retrieved from <http://time.com/3029191/bottled-water-ingredients-nutrition-health/>

[5]Ebbs, S. (2016, September 21). Tap Water for Millions Contains Metal Made Famous by “Erin Brockovich.” Retrieved September 24, 2016, from <http://abcnews.go.com/US/tap-water-millions-americans-erin-brockovich-metal-report/story?id=42218891>

[6] Scutti, S. (2016, August 30). Millions of Americans drink unsafe water, study says. Retrieved September 30, 2016, from <http://www.cnn.com/2016/08/09/health/contaminated-water/index.html>

[7] Landa, J. (2014, January 13). More Than 24,500 Chemicals Found In Bottled Water [Text.Article]. Retrieved September 30, 2016, from http://www.foxnews.com/health/2014/01/13/more-than-24500-chemicals-found-in-bottled-water.html

[8] Karlstrom, S., & Dell’Amore, C. (2010, March 13). Why Tap Water Is Better Than Bottled Water. Retrieved September 6, 2016, from <http://news.nationalgeographic.com/news/2010/03/100310/why-tap-water-is-better/>

[9] Postman, A. (2016, January 5). The Truth About Tap. Retrieved September 16, 2016, from <https://www.nrdc.org/stories/truth-about-tap>