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Review Article

The Detrimental Health Effects of Sugar

Kristen L Poe*

Affiliation: POE Holistic Health, Shrewsbury, MA, USA

***Corresponding author:** Kristen L Poe, PhD, Wellness Doctor, Poe Holistic Health, P.O. Box 485, Shrewsbury, MA 01545, USA, Tel: (508) 388-2853, E-mail: drkristenpoe@poeholistichealth.com

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We hear so often that we should avoid sugar as much as possible because it is not good for our health. It is important to understand the reasons WHY and HOW it is detrimental to our health. To begin with a definition of what sugar is, it is a carbohydrate that provides energy for our body, and is found naturally in most plants, but especially in sugar cane and sugar beets. Before sugar (sucrose) enters the bloodstream from the digestive tract, it is broken down into two simple sugars called glucose and fructose. Glucose is in every living cell, and if we don't get it from our diet, our bodies produce it [2]. Fructose is different because our bodies do not produce it in any significant amount, and there is no physiological need for it [2]. Fructose can only be metabolized by the liver in large amounts, which is usually not a problem if it is eaten in moderate amounts [2]. It will be turned into glycogen and stored in the liver until it is needed [2]. However, if the liver is overloaded with glycogen, then consuming more fructose will turn it into fat [2]. For people who are inactive and eat a Western diet, large amounts of fructose from added sugars get turned into fat in the liver [2]. When sugar is transported into the body, it stimulates the pancreas to produce insulin. Some "good" sugars are found naturally in foods like fruits, vegetables, beans, nuts, and whole grains, while others "bad sugars" are added and used during processing and cooking (added sugars).

The average American eats 19.5 to 22 teaspoons of "bad sugar" each day, which is equivalent to a 4-pound sack once every 20 days [9]. Over the course of one year, this is about 66 pounds of added sugar consumed each year, per person [9]. The American Heart Association recommends no more than 6 teaspoons of added sugar per day for women, 9 teaspoons for men, and no more than 3-6 teaspoons for children per day [9]. Given these disturbing facts, something definitely needs to be done about this "sugar crisis."

In the past decade or more, there has been a huge push to reduce fat intake in our diets to achieve better health and lose weight. While certain trans and saturated fats are undoubtedly detrimental to our heart health, a much bigger focus should be placed on sugar because it is a much more pervasive and detrimental thing to our health. In April 2014, the Journal of the American Medical Association published an article entitled Added Sugar Intake and Cardiovascular Diseases Mortality among US Adults. The main purpose of the study was to examine time trends of added sugar consumption as percentage of daily calories in the United States, and investigate the association of this consumption with the rates of cardiovascular deaths [3]. The results show that **INGESTING TOO MUCH ADDED SUGAR DOES SIGNIFICANTLY INCREASE OUR RISK OF DYING FROM CARDIOVASCULAR DISEASE** [3]. Sugar is added in so much of what we consume, and a lot of the time we do not even know it is in what we are eating. The results from the 15-year study on added sugar and heart disease also show that participants who took in 25% or more of their daily calories as sugar were more than twice as likely to die from heart disease as those whose diets included less than 10% added sugar [3]. Overall, the odds of dying from heart disease rose simultaneously with the percentage of sugar in the diet [3]. In addition, studies show that large amounts of fructose can raise triglycerides, LDL, blood glucose, insulin levels, and increase abdominal obesity in as little as 10 weeks [3]. Liver disease and its link to sugar is another area that is being researched. In June 2015, researchers from the Jean Mayer USDA Human Nutrition Research Center on Aging (USDA HRNCA) at Tufts University in Boston reported in the Journal of Hepatology, that a daily sugar-sweetened beverage habit may increase the risk of non-alcoholic fatty liver disease [7]. NAFLD is characterized by an accumulation of fat in the liver cells that is unrelated to alcohol consumption [7]. Sugar-sweetened beverages are a major dietary source of fructose,

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which is the sugar that is suspected of increasing the risk of NAFLD because of how our bodies process it [7].

A lot of research is also currently being conducted by the National Institutes of Health in order to determine if there is a link between 24 different types of cancer and sugar. More and more evidence is pointing to a link between sugar consumption and an increased risk of developing certain types of cancer [1,2].

Over consumption of sugar is also linked to digestive imbalances and disturbances in our microbiome (gut health) and has been linked to leaky gut syndrome. As we know, the gut has an overall impact on our immune system [1]. Sugar can trigger inflammation that can increase intestinal permeability because sugar feeds yeast and bad bacteria [1].

In addition to its many scary health risks, sugar is infamous for being linked to weight gain and cavities. In excess, it can lead to metabolic problems beyond its effects on weight gain. Studies suggest that the reason is fructose [1,2]. Any fructose that is eaten is sent straight to the liver, which specializes in turning it into droplets of fat called triglycerides. Sugar can lead to insulin resistance, and ultimately metabolic syndromes and type II Diabetes [1,2]. When sugar is consumed in large amounts, insulin stops working as it should, and body cells become resistant to it [2]. Because sugar can cause insulin resistance, it is not surprising to see that people who regularly drink sugar-sweetened beverages have up to an 83% higher risk of developing Type II diabetes [2].

In addition, consuming added sugar delivers empty calories void of essential vitamins and minerals, and can prevent healthier foods from being integrated in our diets. Beverages containing sugar like sodas, certain juices, and energy/sports drinks are some of the biggest sources of added sugars in the average American diet. They account for more than 1/3 of the added sugar that is consumed in the United States. Other sources that are big culprits when it comes to added sugar are desserts (cookies, cakes, pastry, ice cream) candy, and many breakfast cereals. The way sugar affects hormones and the brain directly correlates with weight gain and obesity [2]. Why? It leads to decreased satisfaction, and a loss control over food consumption [2]. It can cause a dopamine release in the brain, and almost an addictive like state in many people [2]. People who consume the most sugar are by far the most likely to become overweight or obese (applies to all age groups) [2]. Cutting back on sugar is one of the most important factors when it comes to weight loss. So how can we avoid the negative health impacts of added sugar?

Beginning by cutting back on processed foods and drinks can lower sugar intake. If sugar is used, it is advisable to use less processed forms, but use them sparingly. Fruits, vegetables,

beans, nuts and whole grains all contain simple sugars. When those sugars are naturally found in whole foods such as the ones previously mentioned, they also contain vitamins and minerals, protein, phytonutrients, and fiber. The presence of fiber is very important because it slows down the absorption of sugar, and controls blood sugar more efficiently. In contrast, when sugars are added to foods (Bad sugars-the refined types that sweetens soda, candy, processed foods, and baked goods/desserts) many times healthy fiber and nutrients have been refined away, and there is a huge rush of sugar into the blood stream. When sugars are consumed in moderation and properly balanced by fiber and other whole food nutrients to slow digestion and absorption, they can be part of a healthy diet. In addition, getting enough high-quality protein, fiber and fermented foods can help decrease sugar cravings over time.

In 2018, the Food and Drug Administration will require most packaged foods to include “added sugar” on their nutrition label [10]. The label will have a separate line showing how much sugar is added to each food item. “Added sugars” include sugars that have been added during the processing or packaging of food [10]. Added sugar is present in 74% of packaged foods in supermarkets [8]. Although desserts, soft drinks, candy etc. are usually the main culprits containing the most added sugar, it is also in many things that don’t seem sweet such as certain breads and pasta sauces [8]. It is very easy to miss out on the high levels of sugars in these items.

It can be said that we are in a sugar-crisis, but it’s something that can surely be remedied through knowledge, awareness, making small dietary changes, and eliminating sugar from our diets as much as possible.

References

1. [Dr Josh Axe \(2017\) Is Sugar Bad for You? Here's How It Destroys Your Body.](#)
2. [Healthline \(2017\) 10 Reasons Why Sugar is Bad For You.](#)
3. [Julie Corliss \(2016\) Eating too much added sugar increases the risk of dying with heart disease.](#)
4. [Katie-Wellness \(2018\) The Harmful Effects of Sugar.](#)
5. Quanhe Yang, Zefeng Zhang, Edward W Gregg, et al. Added Sugar Intake and Cardiovascular Diseases Mortality Among US Adults. *Internal medicine* (2014) 174: 516-524. <https://doi.org/10.1001/jamainternmed.2013.13563>
6. [Tufts now \(2015\) Daily Sugar-Sweetened Beverage Habit Linked to Non-Alcoholic Fatty Liver Disease.](#)
7. Manal F. Abdelmalek, Chris Day. Sugar sweetened beverages and fatty liver disease: Rising concern and call to action. *J Hepatology*(2015)63:306-308. <https://doi.org/10.1016/j.jhep.2015.05.021>
8. [Zahra Barnes. Added Sugar Is Hiding In Plain Sight \(2014\) Women's Health.](#)
9. [How Much Is Too Much? Sugar Science.](#)
10. [Dan Charles. An 'Added Sugar' Label Is On The Way For Packaged Food \(2016\) The Salt.](#)