

The Effects of Sugar on the Human Body

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Sugar did not become common until after the 11th century, and even then it was expensive and seen as a luxury. Now, sugar is cheap and abused by society (Dineen, 1988). These days, processed foods have taken over grocery stores everywhere. Lustig writes in his article, "Sugar is cheap, sugar tastes good and sugar sells, so companies have little incentive to change" (2012, para. 19). Unfortunately, these companies are ruining people's health. The amount of sugar humans are consuming daily has increased immensely over the years and has many negative effects on the human body including an increased risk for diseases and obesity as well as detrimental effects on our brains and bodily systems.

There are three types of carbohydrates that can be found in food: fiber, starches, and sugars. "Your tongue can't quite distinguish between these sugars, but your body can tell the difference" (Anicira, n.d., para. 1). The most commonly talked about sugars, "simple sugars," include sucrose, glucose, and fructose. These sugars come from sugar cane and sugar beet plants (Dineen, 1988, p. 6). Glucose, also known as blood sugar, is the type of sugar that the body uses for energy. The body processes most carbohydrates into glucose. Because glucose is the same sugar that circulates through the bloodstream, it is easy to digest and raises blood sugar quickly, which is what causes insulin problems and diabetes. Glucose, however, is important because it's our body's main source of energy. Fructose is found in many fruits and vegetables, but it is also used as a sweetener. This is the type of sugar found in high fructose corn syrup. Fructose takes longer to digest, and it is not as good of an energy source for your body. When comparing it to the other sugars it is a high producer of fat, and it is seen as highly toxic. Sucrose, also known as table sugar, comes from sugar cane and sugar beets. It is made up of both glucose and fructose,

and when it is ingested, it separates into the two (Ancira). Other carbohydrates can also be dangerous to your body. Foods with high amounts of refined carbohydrates such as bread, pasta, and potatoes can affect our body in the same way. These foods convert into sugar very quickly, and the pancreas can't tell the difference between the different forms of sugar (Bowden & Brechka, 2008, para. 9).

The amount of sugar society is consuming has been increasing day by day. According to past USDA surveys, "sugar now accounts for more than 15 percent of the average adult's calories and 20 percent of the average teenager's" (Bowden & Brechka, 2008, para. 5). The USDA also included in these survey results that the average American's daily consumption of sugar comes to be as much as 20 teaspoons. Soda plays a big role in this. Fifty-eight percent of the soda Americans consume contains sugar, and on average, Americans take in 216 liters of soda every year (Lustig, 2012, para. 9). An article states that "Since 1935, the prevalence of diabetes has risen 765 percent. In that period, consumption of refined carbs in the form of corn syrup-the main sweetener in soda-increased 20-fold per person" (Campbell, 2006, para. 57). The amount of sugar being consumed by human beings is alarming.

Sugar is destroying the body in many different ways. In 2005, the U.S. Department of Agriculture and the U.S. Department of Health and Human Services performed a study on the problems with consuming too much sugar. Their research showed, with medical evidence, that kidney stones, osteoporosis, tooth decay, and heart disease are all common effects of too much sugar. New research is even suggesting that sugar might be a more prominent factor affecting heart disease when compared to fat. Sugar can weaken the immune system, cause inflammation, and age the body. Sugar is very bad for the liver, and some say it has similar effects as alcohol

does on this organ. Alcohol comes from the fermentation of sugar, so this is a logical assumption (Lustig, 2012, para. 10). Since processed sugar has no known health benefits, the lack of substantial nutrients in sugar can cause nutrient deficiencies (Ogundipe, 2015, para. 3). High sugar diets are resulting in an increased risk for many diseases, including diabetes, obesity, Alzheimer's, and even some types of cancer (Bowden & Brechka, 2008). Obesity is a rising issue throughout the world, especially in the United States. Many people immediately assume that fat is a primary cause of obesity, but sugar is actually a colossal factor. "As the sugar content in food goes up, the fewer nutrients your body absorbs, which results in more calories and belly fat" (Liera, 2016, para. 14). As far as diseases go, it doesn't stop at obesity. Diabetes is also a growing problem for people in the 21st century. Diabetes oftentimes correlates with bad health and obesity, especially when it comes to Type 2 diabetes. When sugar is consumed, blood sugar rises and the pancreas produces insulin in order to get sugar out of the bloodstream and into the cells to be used as energy. The pancreas cannot produce enough insulin to handle the amount of sugar in processed foods, so the sugar gets stored as fat or remains in our bloodstream (Campbell, 2006, para. 13). Health care professionals and researchers have spent decades trying to find the right cure for diabetes. An article from 2006 talks about Dr. Mary Vermin, a family doctor who approaches the disease of diabetes with a method unique from many other doctors. First, she cuts out carbohydrates from her patients' diets, which usually gets rid of the patient's symptoms, and medicine is not necessary. This strategy hasn't been commonly used since the 1930s. The American Diabetes Association has spent around \$51 million on research to cure diabetes in 2005 and they state that this method surely should not work. Dr. Vernon is putting this organization at risk because her evidence could possibly be rejecting the closest idea we

have to a cure for diabetes. Dr. Vernon had a patient whose blood sugar was four times higher than regular, and she put him on a low-carbohydrate diet. It took only three months for him to no longer be diabetic, and he never took a dose of medication or insulin. Dr. Vernon believes that it makes the most sense to look at the cause not just the symptoms, and that is why she starts with taking carbohydrates out of her patient's diets. This method was used over a century ago, and documents from that time prove how successful it can be. In 2003, researchers at Duke University tested Dr. Vernon's approach to her diabetes cure. They discovered that 17 out of the 21 diabetic participants found success by changing their diet and were able to reduce or even discontinue their medicine (Campbell, 2016). Aside from diabetes, studies show that people who have a higher sugar intake also have higher risks for developing cancer. This is because insulin is one of the key factors in regulating cancer growth. Also, metabolic problems that result from too much sugar can cause inflammation that can possibly evolve into cancer (Campbell, 2016). Along with negatively affecting other organs throughout the body, sugar can also severely affect the brain. People with a high sugar intake have a substantial chance of dealing with cravings, mood swings, PMS, and more. Studies have been done proving that humans can become dependent on sugar and abuse it in a similar manner as they would abuse drugs or alcohol if addicted. Sugar affects the hormone ghrelin, the human body's way of telling us we are hungry. Sugar also negatively influences levels of leptin, the hormone that tells the body when its hunger is satisfied (Lustig, 2012, para. 11). Finally, sugar is terrible for your teeth. This is no secret, because everybody has been told that too much candy will result in cavities. That being said, sugar doesn't hurt teeth like most people think; there is a complex relationship between sugar and its negative effects experienced by teeth. Thomas F. Armstrong, a doctor of dental surgery

and board certified doctor of dental sleep medicine states, "Sugar by itself isn't necessarily affecting the tooth directly" (Liera, 2016, para. 6). People ingest food and drinks with hidden sugars on a daily basis. When the sugar is put in the mouth bacteria immediately feeds on it which causes acids to be produced. These acids weaken tooth enamel which in the long run creates cavities. This being said, teeth are the first part of the body to be affected by sugar (Liera, 2016). Believe it or not, after looking at all of the bad effects sugar has on the body, it can be valuable in a way. Processed sugars, such as high fructose corn syrup, have zero value to the human body, whereas natural sugars such as sugarcane and the sugars found in fruit actually have a lot of beneficial enzymes, vitamins, and minerals (Bowden & Brechka, 2008, para. 10). The number of poor effects, however, outweigh this one benefit. All in all, sugar creates serious risks for numerous health problems.

“Added sugar is the single worst ingredient in the modern diet,” Ogundipe states in an article from *AllAfrica* (n.d., para. 1). Considering all the ways sugar is harmful to the human society, in addition to the fact that the total consumption of processed sugars is increasing year to year, it is important that the problem becomes under control. It is going to be challenging, but there are multiple ways society can take action and remove the temptations of sugar from people’s daily lives. The US Food and Drug Administration can start by removing fructose from the ‘Generally Regarded as Safe’ list. This will set standards for the amount of sugar manufacturers can add into their food. Another option to reduce the amount of sugar from people's daily lives is to put taxes on those certain processed foods. The problem with this, though, is every type of "sugar filled" processed food will be required to have a tax on it including certain cereals, soda, juice, and even sports drinks. Another solution could be to

control the number of fast food restaurants, especially in low income areas, and do a better job of promoting healthier options such as food from a market. Next, a way to remove sugary and unhealthy foods from schools and workplaces would be to strengthen the requirements on vending machine licenses (Lustig, 2012). The United States, and other countries too, have options for reducing the problem of sugar.

There are many controversies over what kind of diet is the best for one's health. A big debate is which of these two diets is better: a low carbohydrate diet or a low fat diet. An article from *Better Nutrition* magazine states, "The most damaging ingredient in the American diet is not fat. It's sugar" (Bowden & Brechka, 2008, para. 2). Neurologist Josh Turknett learned in medical school that the way to avoid heart disease was to avoid fatty and cholesterol packed foods. He was also told that obesity was caused by laziness and overeating. After going against what he believed to be the correct diet to maintain good health, he got rid of his and his patients' migraines by taking sugars out of his ideal diet plan (Turknett, 2013). Also, it is said that using a high carb diet to fight diabetes will increase the chances of heart disease in the long run which can be extremely deadly to diabetics (Campbell, 2006, para. 17). Even with arguments about the best kind of diet, reducing carbohydrates and sugar from one's diet will boost their overall health.

Sugar and other carbohydrates are surrounding society, just waiting to ruin people's lives. Sugar has many dreadful effects on the overall human body, including increased chances for diseases such as obesity, diabetes, heart disease, and more. Sugar also causes bad dental health and affects the brain and liver. It is important that people take action to eliminate high sugar diets all over the world.

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