

THE HISTORY OF SUGAR

We evolved to seek out and even crave sweet things. From an evolutionary standpoint, sweet tasting things were usually in the form of fruits and vegetables and were calorically dense. Our brains evolved to expect a load of carbohydrates along with the sweet substances. Fructose, one of the compounds formed when sugar is broken down (sucrose is another), activates processes that make our bodies hold on to more fat. This is a survival advantage and an evolutionary protective mechanism.

Today, the vast majority of the sugar humans consume is "added sugar" and comes from sugar cane or sugar beets. Oddly, when raw sugar cane is chewed, a common practice where it is grown, it actually helps keep your teeth healthy. All the fiber chewing acts as an "exercise" for the teeth, gums and mouth. In its natural form, raw sugar contains vitamins, minerals and phytonutrients. In its refined form however, it is very unhealthy. Sugar cane is grown, harvested, washed, crushed and the juice is then extracted from the fiber. The juice is then clarified to remove impurities and an evaporation process further gets rid of any waste. The remaining syrup is crystallized by adding small sugar grains which initiates the crystallization process. It's then spun down (centrifuged) and voila, you have sugar. Actually, massive rotting piles of sugar cane and beet debris today is a significant source of global warming gases so the sugar industry has a huge environmental impact.

Sugar first appeared on the scene about 2500 years ago in India. A technique was developed to turn sugar cane juice into a crystalline form which was easier to store and transport. It was known in Sanskrit as "Khandā", which is the origin of the word Candy.

It appeared in Europe in the 1st century AD as an imported medicine. It was combined with bitter herbs and spices. Remember the line from the Mary Poppins song "a spoonful of sugar makes the medicine go down"?

During the crusades, the "sweet salt" was brought back from caravans in the Middle East. Sugar was an expensive luxury item until the 18th century when it became cheaper and more widely available. In the 1300's, 1 kg of sugar, called "white gold" at the time was 2 shillings a pound or \$50/lb by today's standards. In the 16th century, 1 tsp of sugar cost the equivalent of \$5 today.

Sugar production became the main driver of the slave trade. In the 1600's, Jamaica and Barbados were the main sources of slaves to harvest sugar cane for the sugar industry. As the numbers of available slaves in the Caribbean islands dwindled, Africa became the main source of slaves. 100s of thousands of slaves perished because of poor conditions in the sugar cane fields alone. By 1807, there were more than 6 million slaves on various sugar cane plantations in the Americas.

By the 1700's, we saw a rise in consumption of sugar. At that time, it was primarily consumed in Europe and the average Brit consumed ~ 4 lbs a year. As production started to increase in the Americas and prices started to fall making it more available to the masses. Consumption rose and by 1870, the average person ate 47 lbs a year. By 1900, this number rose even higher to over 100 lbs a year. At that time, the average American consumed ~ 40 lbs a year. Today, the average American consumes over **150 lbs a year!** The average amongst all other industrialized countries is 53 lbs/year.

In 1896, the Dow Jones Exchange was formed. To tell you how powerful the sugar industry became (and still is today), one of the original 12 companies which gave rise to the financial securities system was the American Sugar Refining Company (ASR). The ASR was incorporated in the state of New Jersey on January 10, 1891 by Henry Osborne Havemeyer. By 1907, it owned or controlled 98% of the sugar processing capacity in the United States and was known as the Sugar Trust. It purchased Domino Sugar Company which developed individually packaged sugar cubes in 1906.

CANDY BAR HISTORY

- 1847. 1st "candy bar" was created by Joseph Fry in England when he pressed a paste made of cocoa powder and sugar into a bar shape.
- 1849 John Cadbury introduced his own version of a candy bar.
- 1875 Henry Nestle added milk to his bar making it less bitter.
- Other notable bars firsts:
 - 1900 - Hershey
 - 1916 - Clark Bar
 - 1920 - O'Henry
 - 1922 - Reese's Peanut Butter Cup
 - 1923 - Baby Ruth and Milky Way
 - 1930 - Snickers
 - 1932 - 3 Musketeers
 - 1933 - Kit Kat
 - 1938 - Nestle's Crunch

The annual global sugar market is almost \$100 billion. There is massive financial incentive for people to consume, become and remain addicted to sugar, and we ARE addicted. Sugar is most definitely a recreational drug. It has many similarities to more traditional drugs like cocaine and heroin such as:

- Changing one's physical state
- Changing one's mental and emotional state.
- Stimulating dopamine receptors in the brain
- Inducing feelings of euphoria - the "sugar high". Followed by emotional crash and cravings.

Studies on mice and rats showed that when given a choice, 94% of them chose the sugar. Most already addicted to cocaine switched to sugar when offered the choice and they were willing to do more work for sugar than cocaine. Studies also show cross tolerance and cross dependence. What this means is that when animals were addicted to sugar, their responses to morphine were significantly diminished.

There are 3 defined criteria defining addiction to any behavior or drug and sugar checks all the boxes:

1. Increasing intake.
2. Withdrawal symptoms when discontinued.
3. Cravings that lead to relapse.

ENDORSEMENTS AND ADVERTISING

- In the 1950's, the sugar industry was allowed to use such advertising claims as "Sugar's quick energy could be the willpower you need to eat less!"
- \$1.4 billion is spent on endorsements of sugar products at music concerts alone.
- Music influences through songs themselves: "Sugar Pie, Honeybunch" by The Four Tops, "Pour Some Sugar on Me" by Def Leppard and "Sugar" by Maroon 5 are some examples.
- Sporting events
 - At the facilities
 - Athletes endorsing products themselves
- Many studies have shown the impact advertising has on drive and desire for more products.
- Advertising through various media sources to youth alone is a staggering 1.5 billion.