

5th Science Blizzard Bag Assignment #2

ADDICTED TO SUGAR

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(1) When people think of addictions they think of substances like alcohol, cigarettes and illegal drugs like cocaine and heroin. However, what if there's a more addictive substance that is more common, found in all of our homes and aggressively marketed and even legally sold to children? This substance exists and it is sugar.

(2) Over the last few years, more and more research points to sugar as a major contributor to health problems like cardiovascular disease, obesity, diabetes, liver disease, some cancers and even lowered mental functioning. We all know we shouldn't eat too much sugar, but most of us don't realize how much sugar we're actually consuming and how it's affecting our health. Many of us might say that we have a "sweet tooth" but very few of us would think that we have a sugar addiction.

(3) Research is beginning to show that many of us exhibit signs of sugar addiction. Signs like cravings for sugar, loss of self control around sweets and feelings of withdrawal (feeling bad or unhappy) when not eating it. Studies have been done on rats to investigate the addictive properties of sugar versus other addictive drugs. In these studies, rats were given cocaine or heroin until they become addicted. After drug addiction was established, the rats were introduced to sugar along with the drug. Over a short period of time, over 90% of the rats began to choose sugar over the drug they were already addicted to and developed a stronger sugar addiction than drug addiction. Research like this shows the powerful addictive capacity of sugar.

(4) Highly sweet and refined sugars have not existed in our diets until recently. Our ancestors lived in a world where dietary sweetness was less consistent because sweet fruits were not as common, especially in more Northern climates where fruit was smaller, and more sour and bitter than sweet. It wasn't until humans developed agriculture and began selecting only the sweetest fruits to farm that fruits became very sweet and widely available. For many of our hunter-gatherer ancestors, super sweet foods were very scarce and some likely consumed no more than 20 teaspoons of sugar a year while we can consume the equivalent of that in one soda! Our brains are



not adapted to the overload of pleasure that occurs when we consume sweets. Sugar triggers the same pleasure, reward, and habit formation pathways in the brain as cocaine and heroine. This pleasure ensures continued sugar consumption that can lead to addiction.

(5) Not only are fruits sweeter and more available than ever before, we are also consuming a greater amount of added sugars in other foods. High fructose corn syrup (HFCS) was developed in the 1970s and since then it has become a very common sweetener in sodas, sugary drinks, and many processed foods. Unlike sucrose (cane sugar) which is already very sweet, HFCS is even sweeter and more rapidly absorbed by the body to provide a very quick reward for the brain. Many children in Westernized countries will consume 2 beverages a day containing HFCS and this is a major contributor to childhood obesity, diabetes and sugar addiction.

(6) The majority of us consume too much sugar and even if we avoid the obvious added sugars there is still a whole world of hidden added sugars in our diet that most of us are unaware of. These sneaky hidden sugars make it very difficult to avoid added sugars. Foods like ketchup, barbeque sauce, pasta sauce, salad dressings, cereals, power bars and baked beans contain a lot of hidden added sugar.

(7) Imagine that you've decided to kick your sugar addiction and start eating healthier. For breakfast you have bowl of cereal, for lunch you have a sandwich with a side of coleslaw and a cup of strawberry yogurt, and for dinner you have a chicken salad. You've said no to all

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the desserts and sodas today. If a woman should have no more than 24g of added sugar and a man no more than 36g, did your diet stay within these limits? A cup of cereal has between 10g-20g of sugar, a side of coleslaw has 15g of sugar, a serving of salad dressing can have 5g-7g of sugar and a serving of fruit flavored yogurt has 17 g of sugar. This totals 47g to 59g of added sugars! The hidden sugars in food often fool people into thinking they don't eat as much sugar as they do.

(8) With so much hidden sugar everywhere, it might seem impossible to cut out added sugar. However, reading food labels will really begin

to help you identify hidden added sugars. When reading labels, you should do the following things: 1) identify how much sugar is in each serving of food, 2) identify where sugar is located in the ingredients list. Ingredients are listed in the order of their greatest quantities first, so if sugar is one of the first 3 ingredients, you know there's a high sugar content and 3) learn to identify sugar by its different names: sucrose, fructose, high-fructose corn syrup, glucose, lactose, evaporated cane juice, dextrose, brown rice syrup, molasses, and honey. With a little awareness and determination, you can cut down your sugar consumption greatly.

Article Questions

- 1) List the signs of sugar addiction.
- 2) Explain two ways that the rat study showed that sugar may be more addictive than cocaine or heroin?
- 3) Describe two reasons why our hunter-gatherer ancestors consumed less sugar than we do now.
- 4) How does sugar affect the brain?
- 5) Where do you find high-fructose corn syrup and how is it different from traditional sugar (cane sugar)?
- 6) Next time you pick up a box of cereal and you want to know about its sugar content, what three things should you do?