

Short Communication

High Sugar Foods Addiction is Like a Slow Poison

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Sugar is an ingredient that almost everyone craves. The reason behind it is that it is sweet in nature and ultimately makes things taste better. Nowadays, people try to reduce sugar in their diets to lead healthy and disease-free life. But unfortunately, due to their current lifestyle, everyone is not able to follow it. At times, cutting down sugar drastically can have major side effects, so it needs to be done slowly by diet.

Keywords: sugar, fructose, calories.

What happens physiologically in the body

When we consume sugar, it triggers, and an overstimulation of the reward centers is caused creating an addiction to it. When we consume foods high in sugar there is an activation in the brain's reward centers. And simultaneously, a large quantity of dopamine is released. That is why we feel good by having sugar. If we often consume high sugar foods, a tolerance is developed which requires us to consume more sugar to get the equivalent reward level. Gradually with time and the over stimulation of the reward centers, an addiction is developed to sugar which has a feel-good experience when consumed. Since having the super powerful effects of sugar on the brain, it can have the functional effect as of drugs like heroin and cocaine. So, like drugs sugar is also bad for health. Over the past years the consumption of sugar has been high. According to AHA (American Heart Association) women should consume 6 teaspoons of sugar per day maximum and men should consume 9 teaspoons of sugar maximum. (1) The sources of sugar foods are soda and fruit drinks, which add a lot of calories to the diet.

Why is Fructose unhealthy: Sweetening agents like high fructose corn syrup (HFCS) and table sugar both are composed of two sugar molecules glucose and fructose in almost approximately equal quantity. Glucose is used by the body to operate billions of cells. At the same time, fructose acts as a severe poison. It slowly degrades the body's systems. HFCS (High Fructose Corn Syrup) is added mostly in processed foods like sauce and ketchup. Fructose gums up the inner workings and tends to cause metabolic syndrome, various disorders like CVD, Type 2 diabetes and fatty liver disease. (2) Fructose is only harmful in consuming processed foods, carbonated and fruit juices. Not in case of fiber rich fruits of milk sugar (lactose) in milk.

As per AHA there are 2 types of sugars - naturally occurring sugars and added sugar. Added sugar is like a poison since it has no nutritional value, nor any essential protein, vitamins, and minerals. So, it is amongst the worst and most toxic ingredients in the food. It leads to harmful effects on body metabolism and leads to the development of various serious health conditions and diseases. Based on a 2000- calorie diet we require 32 g of sugar per day. (3)

In case of processed foods, the amount of added sugar is as follows:

S. No	Product	Sugar (g)
1	Canned Fruit	12
2	Ketchup	25
3	Peanut Butter	7.7
4	Soup	24.2
5	Salad dressing	8.7

Table 1. Nutrition per 100 gm in Processed Foods

S.No	Fruit	Serving Size	Serving in gm	Sugar (g)
1	Apple	1 large	240	25
	RDA per serving			78.13
2	Avocado	1/5 th	30	0
	RDA per serving			0
3	Banana	1 medium	125	19
	RDA per serving			59.38
4	Blueberries	1 cup	140	15
	RDA per serving			46.88
5	Cranberries	1 cup	140	4
	RDA per serving			12.5
6	Cantaloupe (Melon)	1/4th	130	11
	RDA per serving			34.38
7	Grapefruit	1/2 th	150	11
	RDA per serving			34.38
8	Grapes	3/4th cup	125	20
	RDA per serving			62.5
9	Honeydew Melon	1/10th	130	11
	RDA per serving			34.38
10	Kiwifruit	2	150	13
	RDA per serving			40.63
11	lemon	1	60	2
	RDA per serving			6.25
12	Lime	1	65	0
	RDA per serving			0
13	Nectarine	1	140	11
	RDA per serving			34.38
14	Orange	1	150	14
	RDA per serving			43.8
15	Peach	1	140	13
	RDA per serving			40.63
16	Pear	1	160	16
	RDA per serving			50
17	Pineapple	2 slices	110	10
	RDA per serving			31.25
18	Plums	2	150	16
	RDA per serving			50
19	Strawberries	8	150	8
	RDA per serving			25
20	Sweet Cherries	20	140	16
	RDA per serving			50
21	Tangerine	1	110	9
	RDA per serving			28.13
22	Watermelon		250	20
	RDA per serving			62.5

Table 2. Amount of Natural Sugars in Fruits (4) (5)

Disadvantages of high sugar:

- It promotes inflammation and various diseases like obesity and heart disease.
- It also aids in breast cancer.
- It aids in weight gain, specially from sugar-based beverages which can lead to visceral fat accumulation.
- It raises androgen secretion, oil production and inflammation which can lead to acne development.
- May increase the risk of depression both in men and women.
- Can accelerate skin aging and the formation of wrinkles.
- It may accelerate the shortening of telomeres which leads to cellular aging.
- It can have a negative impact on energy levels by a mere spike in blood glucose level which can be fatal.
- High sugar in the form of fructose will overload on the liver, which will lead to non-alcoholic fatty liver disease meaning excessive fat deposition in the liver.

Sugar is present in many foods we consume daily. Hence there is a need to study the food labels before purchase as we will get to know about the quantity of natural sugar and added sugar. On the label, it may be labeled as fructose, sucrose, lactose, maltose, glucose, and dextrose. One of the dangerous sugars is high fructose corn syrup, which is available in many foods like frozen foods, few vegetables, peanut butter, salad dressing, pickles, soups and canned fruits.

Conclusion

Reducing sugar intake from our diets can be a challenging task, but it is still possible to achieve by consuming a minimal amount of sugar. When we do consume sugar, it is recommended to opt for natural alternatives whenever possible. Instead of obtaining sugar from processed foods, it is better to obtain it from natural sources such as fruits. By doing so, we can ensure that we are consuming a healthier and more wholesome diet.

References

1. Johnson RK, Appel LJ, Brands M, Howard BV, Lefevre M, Lustig RH, et al.; American Heart Association Nutrition Committee of the Council on Nutrition, Physical Activity, and Metabolism and the Council on Epidemiology and Prevention. Dietary sugars intake and cardiovascular health: a scientific statement from the American Heart Association. *Circulation*. 2009 Sep 15;120(11):1011-20. doi: 10.1161/CIRCULATIONAHA.109.192627. Epub 2009 Aug 24. PMID: 19704096.
2. Goran MI, Ulijaszek SJ, Ventura EE. High fructose corn syrup and diabetes prevalence: a global perspective. *Glob Public Health*. 2013;8(1):55-64. doi:10.1080/17441692.2012.736257. Epub 2012 Nov 27. PMID: 23181629.
3. Rubin BS, Murray MK, Damassa DA, King JC, Soto AM. Perinatal exposure to low doses of bisphenol A affects body weight, patterns of estrous cyclicity, and plasma LH levels. *Environ Health Perspect*. 2001 Jul;109(7):675-80. doi: 10.1289/ehp.01109675. PMID: 11485865; PMCID: PMC1240370.
4. DIETARY GUIDELINES FOR INDIANS -A Manual [Internet] [cited 2023 Apr 20]. Available from: <https://www.nin.res.in/downloads/DietaryGuidelinesforNINwebsite.pdf>
5. C Gopalan, Nutritive Value of Indian Food, ICMR National Institute of Nutrition. 21, 21-27 (2018).