

## Strategies to Strike Out Sugar

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Received date: 02 Apr 2016; Accepted date: 18 Apr 2016; Published date: 22 Apr 2016.

Citation: Wong KV (2016) Strategies to Strike Out Sugar. J Epidemiol Public Health Rev 1(3): doi <http://dx.doi.org/10.16966/2471-8211.121>

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### Abstract

Besides carrying many empty calories, sugar has been shown to be an opiate. Many maladies have been associated with sugar, including eating disorders, obesity and the two types of diabetes. The objective of the current work is to suggest strategies to remove sugar from one's diet for a healthier life. The Strategies to Strike out Sugar (SSS) are introduced to help one to overcome the addiction of sugar, thus digging oneself out of brain fog, obesity or diabetes or a combinatory malaise resulting from the different problems. Glucose control can be achieved via low carbohydrate vegetables, fruits and whole grains. Extensive population studies should be carried out on selected plant foods to confirm their effectiveness in glucose control.

**Keywords:** T1DM; T2DM; Opioid; Eating disorders; Obesity

### Background

It is a common misconception that sugar is necessary for the proper functioning of the human body. Sugar is principally a combination of glucose and fructose. The body needs the glucose for proper functioning, which the body gets from recent intake of glucose, or manufactures it from complex carbohydrates consumed, or manufactures it from fructose stored in the liver. From a healthy, dietary viewpoint, it is best to strategize one's diet so that the body gets almost all the glucose it needs by its digestion of complex carbohydrates.

Sugar is at its most tempting potential of causing myriad problems on the largest number of people when it is disguised as enticing, mouth-watering tasty deserts and snacks. Milk chocolate and the numerous flavors and types of ice cream are almost irresistible. Culturally, in Middle Eastern and North African, European, American, Australian, South Asian and East Asian traditions, sugar has been used in deserts. It would be almost impossible to eliminate sugar from the diet of the peoples of the world.

Angelo Druda expressed the popular opinion that, "The American health care system is now buckling from the weight of treating ever growing numbers of people, a high percentage of whom are suffering conditions caused by chronic inflammation, and insulin resistance. We begin creating these so called 'diabesity' diseases early in life, by putting sugar in children's breakfast cereals and then surrounding them with sucrose filled candies and cakes" [1]. 'Diabesity' is the combination of 'diabetes' and 'obesity'. This coinage is meant for the health condition related to metabolic syndrome that is associated more with middle age.

In [2], Paul Van der Velpen, Head of Amsterdam's health service in the Netherlands, stated that sugar should be named the 'most additive and dangerous substance' of our time. It is worse than cigarettes and alcohol. Tobacco in cigarettes and alcohol had been pronounced carcinogenic by the World Health Organization (WHO). The WHO pronounced that processed meats are carcinogenic in late October 2015 [3-7]; colorectal cancer has been linked undeniably to the consumption of processed

meats. Since cancer is one of the most widespread diseases around the world, and consequently one of the most feared; the pronouncement by Van der Velpen about sugar is rather damning.

### Literature Survey

In [8], the blood brain barrier was shown to have been destroyed in a patient with diabetes that has hardly been controlled. The evils of excessive sugar with concomitant diabetes, and further deterioration that the blood brain barrier is broken down, is shown by this study.

In [9], a Magnetic Resonance Imaging (MRI) study was done on seniors with chorea. Besides the ganglia found in the brain, the serum glucose level in the elderly men and women were high. It was clear from this 2002 study that blood sugar control was essential for therapy of this disease. This definitive work presents an example of one of the myriad evils of sugar consumption.

In [10,11], one of the conclusions was that the chorea in patients improved after control of blood glucose levels. Symptoms disappeared quickly after correction of hyperglycemia.

Sugar can cause the skeleton to be more fragile for persons with Type 1 or Type 2 Diabetes Mellitus (T1DM or T2DM) [12]. Davidson [13] has written a tome about the medical conditions that require the paleo or traditional diet without sugar. This is a positive suggestion since there were not that many cases of the two types of diabetes in the old days.

Researchers studied the opiate-like effects of sugar in rats [14] and found positive results. In [15], the researchers declared that sugar "might have effects like a drug of abuse". In other words, the potency of sugar is comparable to some of the illegal opiates. In [16], the experimental hypothesis put forward was "whether or not sugar can be a substance of abuse and lead to a natural form of addiction". This 2008 review of 256 refereed articles arrived at the conclusion that sugar might have a significant role in eating disorders and obesity. In references [17,18], the results do provide confirmation of the important conclusion of [16].

Reference [19] was titled “Chronic sugar intake dampens feeding-related activity of neurons synthesizing a satiety mediator, oxytocin”. This finding supplies the link between eating disorders like binge eating, to sugar. Sugar in the guise of chocolates and ice cream for instance, do supply large quantities of sugar, which would be real-life conditions of large chronic sugar intake. Reference [20] confirms this finding of [19]. The over consumption of sugar involved opioids and oxytocin. The ‘brain fog’ phenomenon associated with chronic excessive sugar consumption has been reported by many persons [21].

Hot flashes are experienced by about 50% of the women before menopause, and increases to 75-80% after menopause. Sugar aggravates the hot flash occurrence and night sweats in women [22]. Since there are at least 34 unpleasant symptoms associated with menopause [22], it is best to minimize even 2 of them.

Glucose feeds cancer cells [23, 24]. In [24], it was stated that cancer cells use glucose extensively. In other words, it does not help the patient to have high concentrations of glucose in the blood. Instead, an elevated glucose level does hurt the cancer patient.

### Strategies to Remove Sugar from the Diet

It is suggested that added sugar should be eliminated from one’s diet. Sugar here refers to the white or brown sugar crystals derived and refined from cane sugar and similar plant sources. Actions include the bulleted deeds listed below. Strategies may be customized for each individual based on circumstances and overall goal of each, using some or all the actions.

- Do not purchase or store any form of refined sugar or brown sugar for the home.
- Keep a bottle of raw honey around when sugar is absolutely necessary. The phytonutrients associated with the different types of honey (location dependent) will provide some nutritional value when honey is used to replace sugar. Use honey in moderation on these rare occasions.
- Do not purchase sugar substitutes, since they do in general inflame the gut.
- Use the natural sugar of fruits, roots, squashes, gourds and other vegetables to balance the sourness of a dish or drink.
- Do not drink fruit juices. Eat the whole fruit instead. This makes the body work for the glucose and fructose. Fruit juices spare the digestive system from digesting the whole fruits, and this lack of exercise is bad for a healthy system. In rare occasions, one can partake of water flavored with fruit juice or water-diluted fruit juice.
- Onions is a ubiquitous root which is used by all the major cultures around the world [25]. Cooked onions provide the sweetness necessary for some dishes, e.g. meat stews. Sweet potatoes and other vegetables may also be used.
- Do not partake of deserts with sugar as an ingredient. Eat whole fruits instead. This wise practice comes from Chinese and other Asian traditions.
- Drink tea, coffee and other beverages without sugar or sugar substitutes.
- Do not consume foods made with sugar as an ingredient, e.g. most deserts.
- Control of sodium/salt intake will aid in controlling sugar intake.
- Avoid canned fruits in sugar; eat canned fruits in juice sparingly.
- Eat frozen grapes, berries, bananas, etc. in hot weather instead of ice cream.

### Some Foods that are Healthful for Glucose Control

Raw and cooked vegetables with low carbohydrates are known to be good for glucose control. They provide good dietary fiber without too many calories. Recommended in [26] are onions, mushrooms, onions, brussels sprouts, eggplant, tomatoes and low-carb squashes e.g. zucchini. Others are green leafy vegetables e.g. spinach, kale and chard. Whole grain or high fiber foods without gluten are recommended, because gluten has been shown to be a problem [27,28]. Whole grains that contain gluten are wheat, rye and barley, which are used widely in cereals. The recommendations of [26] are supported also by [29,30].

Apparently, there are no extensive dietary studies that examine asparagus consumption and chronic diseases in humans. In other words, there needs to be a large scale study to be funded and performed. It is expected that asparagus intake would reduce chronic disease risk in heart disease and T2DM. There is some initial research in both these two topics. With a list of B vitamins, asparagus provides a good amount of dietary fiber, including soluble fiber. Intake of soluble fiber has been shown to lower risk of heart disease, and risk of T2DM can be lessened meaningfully with a rise in intake of dietary fiber. Chronic, excessive inflammation and oxidative stress are risk factors for both heart disease and T2DM. The exceptional antioxidant and anti-inflammatory nutrient composition of asparagus makes it a dietary item of choice for these two diseases.

In [31], the encouraging benefits of the pomegranate fruit were investigated. It was found that “unique antioxidant polyphenols (tannins and anthocyanins), which could be beneficial to control conditions in type 2 diabetes” [31].

### Discussion and Conclusion

The Strategies to Strike out Sugar (SSS) has been presented above to help individuals eliminate sugar from their diets. Sugar is an opiate, and people need help to quit sugar cold turkey or as soon as practical. Withdrawal symptoms could occur, and the twelve general suggestions in the SSS should help individuals remain strong and resolute in abstaining from sugar. The SSS would certainly lessen the maladies that hit at all age categories, especially in the middle and the old ages. Hence, to maintain that abstinence till the end of a healthier, natural life span should be the goal of everyone who would like to lead a full life.

To help achieve and succeed with the use of SSS, some foods and vegetables low in carbohydrates have been recommended. The normal and recommended consumption of moderate amounts of protein and fats are also supported. This brief sketch of dietary recommendations with a focus on sugar elimination should be followed as religiously as an exercise routine for a healthy life.

The particular benefits of certain whole foods of plant origin should be investigated to help people all over the world to transition over to abstinence from raw and refined sugar. Funding should be made available for extensive population studies regarding these foods, selected based on the promising results of smaller studies.

### Acknowledgment

If this were a short story, an alternative title to my paper would be “Confessions of a sugar addict, and how the road to recovery comes with knowledge learned and shared”.

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