Sugar May Be More Damaging To The Brain As Extreme Stress Or Abuse

We all know that cola and lemonade aren’t great for our waistline or our dental health, but our new study on rats has shed light on just how much damage sugary drinks can also do to our brain.

The changes from sugar we observed to the region of the brain that controls emotional behaviour and cognitive function were more extensive than those caused by extreme early life stress. The damage was severe.

It is known that adverse experiences early in life, such as extreme stress or abuse, increase the risk of poor mental health and psychiatric disorders later in life. Now we know that excess high glycemic sugar use can be more of a rusk.

The number of traumatic events (accidents; witnessing an injury; bereavement; natural disasters; physical, sexual and emotional abuse; domestic violence and being a victim of crime) a child is exposed to is associated with elevated concentrations of the major stress hormone, cortisol.

There is also evidence that childhood maltreatment is associated with reduced brain volume and that these changes may be linked to anxiety.

http://indavideo.hu/video/The_Real_Story_of_Cardio-Vascular_Disease_the_number_one_cause_of_Death
What We Found

Looking at rats, we examined whether the impact of early life stress on the brain was exacerbated by drinking high volumes of sugary drinks after weaning. As females are more likely to experience adverse life events, we studied female Sprague-Dawley rats.

To model early life trauma or abuse, after rats were born half of the litters were exposed to limited nesting material from days two to nine after birth. They then returned to normal bedding until they were weaned. The limited nesting alters maternal behaviour and increases anxiety in the offspring later in life.

Sugar could be more damaging to the brain than trauma. and it is everywhere

At weaning, half the rats were given unlimited to access to low-fat chow and water to drink, while their sisters were given chow, water and a 25% sugar solution that they could choose to drink. Animals exposed to early life stress were smaller at weaning, but this difference disappeared over time. Rats consuming sugar in both groups (control and stress) ate more calories over the experiment.

The rats were followed until they were 15 weeks old, and then their brains were examined. As we know that early life stress can impact mental health and function, we examined a part of the brain called the hippocampus, which is important for both memory and stress. Four groups of rats were studied – control (no stress), control rats drinking sugar, rats exposed to stress, and rats exposed to stress who drank sugar.

We found that chronic consumption of sugar in rats who were not stressed produced similar changes in the hippocampus as seen in the rats who were stressed but not drinking sugar. Early life stress exposure or sugar drinking led to lower expression of the receptor that binds the major stress hormone cortisol, which may affect the ability to recover from exposure to a stressful situation.

Another gene that is important for the growth of nerves, Neurod1, was also reduced by both sugar and stress. Other genes important for the growth of nerves were investigated, and just drinking sugar from a young age was sufficient to reduce them.
The rats were exposed to high sugar intakes during development, and the impact of the sugar is worrying as it may affect brain development, although further work is required to test this.

In this study, combining sugar intake and early life stress did not produce further changes in the hippocampus, but whether this remains the case over time is unclear.

What Does This Mean For Us?

The changes in the brain induced by sugar are of great concern given the high consumption of sugar-sweetened beverages, with particularly high consumption in children aged nine to 16 years. If similar processes are at play in humans to what was found in our rat study, reducing the consumption of sugar across the community is important.

The fact that drinking sugar or exposure to early life stress reduced the expression of genes critical for brain development and growth is of great concern. While it is impossible to perform such studies in humans, the brain circuits controlling stress responses and feeding are conserved across species.

People who were exposed to early life trauma have changes in the structure of their hippocampus. In humans, those consuming the most “western” diet had smaller hippocampal volumes, in line with data from animal models.

Taken together, these findings suggest future work should consider possible long-term effects of high sugar intake, particularly early in life, on the brain and behaviour.

UCSF Scientists Declare WAR on Sugar in Food

From AllDay. Chronicle Staff Writer

02/01/12

Like alcohol and tobacco, sugar is a toxic, addictive substance that should be highly regulated with taxes, laws on where and to whom it can be advertised, and even age-restricted sales, says a team of UCSF scientists. (University of California San Francisco)

In a paper published in Nature on Wednesday, they argue that increased global consumption of sugar is primarily responsible for a whole range of chronic diseases that are reaching epidemic levels around the world. The health care expense of sugar caused diseases is massive.

Sugar is so heavily entrenched in the food culture in the United States and other countries that getting people to kick the habit will require much more than simple education and awareness.
Cardiac + Stroke Disease Can Start in Youth from Sugar Abuse

Sugar's damaging impact can be seen throughout the body:

**BRAIN.** Too much glucose impairs memory, idea processing and mood. In fact, a recent study suggests that sugary, fatty foods may set off Alzheimer's-like symptoms.

**TEETH.** Sugar has a major impact on your overall oral health, but consuming it in drinks, such as sodas or juices, allows it to get into every nook and cranny of your teeth.

**LIVER.** Sugar can lead to non-alcoholic fatty liver disease. Eating 1,000 extra calories of sugary foods may increase body fat just two percent, but increases liver fat by 27 percent.

**SKIN.** Sugar damages collagen and elastin and interferes with the cells' ability to repair themselves, causing sagging and wrinkles.

**BLOOD VESSELS.** Sugar damages the lining of your blood vessels, making them prone to plaque build-up.

**CHOLESTEROL.** A study published in the Journal of the American Medical Association reports that participants who ate the most added sugar tripled their risk of low HDL (good) cholesterol. They also had the highest blood triglycerides levels.

**HEART.** With increased calories, comes increased weight. Obesity increases a person's risk of heart disease.

**CANCER.** Increased sugars may feed some cancer, including some breast and colon cancers. Some tumors may have insulin receptors that are nourished by glucose.

Early Abuse of Hi Glycerol Sugar Leaves Scars on Blood Vessels
How Sugar Affects the Brain: Video Highlights Similar Effects Between Drugs & Sugar

**SUGAR ADDICTION: THE PERPETUAL CYCLE**

1. **YOU EAT SUGAR**
   - You like it, you crave it
   - It has addictive properties

2. **BLOOD SUGAR LEVELS SPIKE**
   - Dopamine is released in the brain = addiction
   - Mass insulin secreted to drop blood sugar levels

3. **BLOOD SUGAR LEVELS FALL RAPIDLY**
   - High insulin levels cause immediate fat storage
   - Body craves the lost sugar 'high'

4. **HUNGER & CRAVINGS**
   - Low blood sugar levels cause increased appetite and cravings
   - Thus the cycle is repeated
9 Ways Sugar Impacts Cancer

Are you eating too many carbs? Sweets and starches—even “healthy” whole-grains—can lead to insulin resistance, which impacts cancer several ways. Let us show you how to find the right amount of carbs for your body’s metabolism.

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Evidence-based nutrition consulting for cancer patients and oncologists worldwide since 1997.

1. Stimulates MITOSIS, the division of a cell into daughter cells

2. Drives oxidation and increases DNA DAMAGE, which can stimulate cancer cell mutation and more aggressive behavior

3. Increases IL-6 and fans the fires of INFLAMMATION, a known tumor promoter

4. Stimulates synthesis of super-antioxidant GLUTATHIONE inside cancer cells, permitting them to escape the cytotoxic effects of chemotherapy and radiation treatments

5. Boosts leptin, which stimulates CELL MIGRATION, and cancer spread (called metastasis)

6. Promotes ANGIogenesis, new blood vessels that fuel tumor growth and progression

7. INHIBITS IMMUNE FUNCTION

8. Increases insulin-like growth factor (IGF-1), a potent growth factor that allows cancer cells to EVADE APOPTOSIS (cell death)

9. Drives up circulating ESTROGEN levels

PROOF SUGAR IS BAD, VERY BAD, REALLY LISTEN IT IS EXTREMELY BAD AND A MAJOR CAUSE AND AGGRAVATOR OF ALL DISEASE

http://youtu.be/Ah88gjejCTU short story of sugar

http://indavideo.hu/video/Bad_Bacteria_Take_over_the_Brain
We Must STOP Damaging our Children with Sugar
Dear Overworked Parents,
Please don't buy your children's love by feeding them junk food and sugar.

SUGAR IS A DRUG.
PLEASE DON'T DRUG YOUR CHILDREN INTO LIKING YOU.