Impact of Blood Sugar Levels on Depression and Anxiety

It has long been suspected that there may be a close relationship between our diets and mental health. Now, more evidence is emerging that specifically suggests our blood sugar levels may have a significant impact on our risk for depression and anxiety.

Uncontrolled blood sugars have been shown to increase the risk of mood disorders like anxiety and depression in both the general population and in those who have diabetes. Over time, poor blood sugar regulation can reflect certain mental health symptoms, such as irritability, anxiety and increased worry, as well as influence the brain's desire to use glucose as its primary fuel source.

- Research has shown diets high in added sugars or foods that ultimately raise your blood sugar are linked to depression and adverse mental health symptoms after several years.
- Excessive sugar intake can lead to inflammation in the body—which is correlated with higher risks of depression—along with varied high and low glucose levels (or dysregulation) that impact fluctuations in our hormones.
    - Hormone dysregulation can often have a negative effect on our moods and is linked to greater risk for depression over time.
- Excess sugar intake can have an addictive effect. Diets high in added sugar can often impact our pleasure/reward chemical—dopamine—in the brain, resulting in an addictive effect that feeds a cycle of poor mood, depression, and desire for more sugar to improve those feelings.
- Data shows increased blood sugars can decrease the strength of connections in a region of the brain that involves emotions and self-perception, which will impact mood and may lead to development of depression.
- High blood sugar levels (hyperglycemia) have been associated with feelings of anger and sadness, while low blood sugar levels (hypoglycemia) have been associated with nervousness.
    - Some of the best ways to address these issues are through diet and lifestyle changes such as managing and decreasing overall stress, increasing macro/micronutrients that help with blood sugar regulation (e.g., protein, fat, fiber) and decreasing dietary intake of refined carbohydrates and/or added sugars.
- Dips in our blood glucose, or hypoglycemic events, can trigger feelings of anxiety and other mood disruptions.

- Poor glucose regulation can alter our hormonal responses, such as adrenaline, cortisol, and epinephrine, which can cause physical anxiety and induce symptoms like sweating, shaking, blurred vision, mood swings, and crankiness.

- Research shows increased added sugar intake over time impacts mental health in even the healthiest of individuals long term.

- Many publications over the last decade have shown evidence that suggests an association between a dysregulated gut microbiome and obesity, insulin resistance, and type 2 diabetes.

    - These conditions have a higher susceptibility for associated mood issues and anxiety, as well as the possible development of depression over time.

- Within the diabetic population, the overwhelming concern and associated responsibilities that come with a diabetes diagnosis (e.g., tracking glucose levels, managing medications and/or insulin therapy, lifestyle changes) have been associated with increased rates of depression.

While additional research can only serve to strengthen our understanding of the relationship between blood sugar dysregulation and mental health disorders, it seems very plausible that making changes to both dietary intake and lifestyle factors to help stabilize glucose levels can assist in preventing the development of some mood disorders.