

## HOW WHAT WE EAT AFFECTS OUR MENTAL HEALTH

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The body and mind have a stronger connection than many people realize. If the body is not properly fueled, the mind will not be either. Dr. Zeeshan Faruqui, Director of Interventional Psychiatry at Keystone Behavioral Health, explains how what we eat can affect our mental health and gives tips for making healthy choices in today's article.

### Fueling Your Brain

Consider this: your brain is perpetually "on." It is responsible for your thoughts and emotions, your breathing and heartbeat, and your senses – it works tirelessly 24 hours a day, even when you are sleeping. This means your brain demands an uninterrupted supply of fuel. That "fuel" comes from the meals you consume — and the type of fuel is critical. Simply put, what you eat has a direct impact on the structure and function of your brain, and thus on your mood.

As with an expensive automobile, your brain performs best when fed only premium gasoline. Consuming high-quality foods rich in vitamins, minerals and antioxidants nourishes the brain and protects it from oxidative stress — the "trash" (free radicals) generated when the body uses oxygen, which can cause cell damage. Regrettably, much like an expensive car, your brain can be harmed if you consume non-premium fuel. If compounds derived from "low-premium" fuel (such as those found in processed or refined diets) enter the brain, the brain has little capacity to eliminate them. For example, diets high in refined sugars are harmful to the brain. Along with impairing your body's insulin balance, they cause inflammation and oxidative damage. Numerous studies have discovered a link between a high-sugar diet and poor brain function — and possibly worsening symptoms associated with mood disorders such as depression.

If your brain doesn't get enough good-quality nutrition, or if free radicals or inflammatory cells are circulating in your brain's enclosed space, they can cause even more damage to your brain tissue. It's interesting that for a long time the medical field didn't fully understand how mood and food were linked, but more is being discovered over time.

### Nutritional Psychiatry

Today, a new field called nutritional psychiatry is finding there are a lot of connections between what you eat, how you feel, and how you act, as well as the kinds of bacteria that live in your gut.

Your gastrointestinal tract is lined with a hundred million nerve cells, so it makes sense that the inner workings of your digestive system not only help you digest food, but also guide your emotional responses to it. Furthermore, the millions of "good" bacteria that make up your intestinal microbiome have a significant impact on the function of these nerve cells and neurotransmitters like serotonin (which regulates sleep, hunger, mediates moods and reduces the sensation of pain). It is important to your health to have these microorganisms in your body. For example, they protect the mucosal layer of your intestines and ensure that they can

offer a strong barrier against toxins and "bad" bacteria, they reduce inflammation and increase your ability to absorb nutrients from your diet.

## Healthy Diets

People who follow traditional diets, such as those found in the Mediterranean and traditional Japanese diets, have a decreased chance (25-35%) of developing depression than those who follow a standard Western diet. Most of the difference is due to a higher amount of vegetables, fruits, whole grains and seafood in traditional diets as well as a lower quantity of lean meats and dairy products. They also lack processed and refined foods, as well as sweets, which are hallmarks of the Western diet. Furthermore, because many of these unprocessed foods are fermented, they serve as natural probiotics. The idea that beneficial bacteria influence more than just digestion and absorption in the gut, but also overall inflammation, mood and energy levels in the body, is gaining momentum among academics.

Results from studies published during the past decade strongly support the concept of brain-gut-microbiome interactions. Changes in these interactions have been linked not only in the development of disease and classic brain-gut disorders such as irritable bowel syndrome (IBS) and other gastrointestinal disorders, but a growing list of psychiatric and neurologic pathologies including affective disorders, autism spectrum disorders, Parkinson's disease, multiple sclerosis and chronic pain. Although much of the literature links gut microbiota composition to human health, development and disease, there is no evidence of cause and effect.

The gut microbiome is made up of 100 trillion microbes and it is connected to the brain by the Vagus nerve, which allows for continual bi-directional chemical messaging. Signals from stimuli in the gut are carried by the Vagus nerve to the brain. Some types of foods can disrupt the gut microbiome and should be limited, including, not surprisingly, foods high in trans fats, processed foods, refined carbohydrates, artificial sweeteners, coffee and alcohol. These reactions are very individual. Everyone's microbiome is unique, and some people may react to certain types of foods while others do not. Foods that support the gut microbiome include beans, nuts and seeds, fruits and vegetables, foods high in fiber, yogurt and fermented foods (such as kombucha, miso, pickles and sauerkraut).

## Micronutrients

Micronutrients—vitamins and minerals—are crucial to healthy development, disease prevention and wellbeing. We get micronutrients from the foods we eat (except for Vitamin D, which our bodies can produce after exposure to the sun). Though people only need small amounts of micronutrients, consuming the recommended amount is important. According to Centers for Disease Control and Prevention (CDC), only one in 10 U.S. adults is getting enough fruits or vegetables (at least 1½ to 2 cups per day of fruit and 2 to 3 cups per day of vegetables).

While many uncertainties remain, among the micronutrients with potential mental health benefits are omega-3 fatty acids, vitamin D and folate (vitamin B9). For example, folate and

omega-3 fatty acids were found to help with depression in combination with other treatments. A specific type of folate, folic acid (known as leucovorin), has been found to have a positive effect on people with autism spectrum disorder. Omega-3 fatty acids have also shown positive effects for symptoms of anxiety and symptoms of ADHD.

Vitamin D supports many functions, yet about one in four adults has a Vitamin D deficiency. Recent research has found Vitamin D supplements beneficial in addressing symptoms in people with major

depressive disorder. Research has also shown benefits from Vitamin D supplements for treating children with ADHD when used in combination with methylphenidate (brand names Ritalin, Concerta and others).

## **Depression**

Although current evidence does not support nutrient supplementation for the prevention of depressive disorders, data from trials and studies suggests that the Mediterranean diet and other healthy dietary patterns may help in the prevention of depressive illnesses and possibly in the management of depression. These eating habits prioritize seafood, olive oil, vegetables, fruits, nuts, lean protein sources, whole grains and legumes as well as vegetable and olive oils. They limit less nutritious, energy-dense foods high in added sugars and saturated fats, such as red meats, sugar-sweetened beverages, pastries and refined grains.

Appropriate levels of n-3 essential fatty acids, vitamin B12, magnesium and zinc are required for appropriate physiological functioning, and deficits should be corrected because low intake of these nutrients has been linked to an increased risk of depression. Vegetarians, vegans and the elderly are more prone to lacking nutrients including B12, and may need to take supplements.

## **Anxiety**

The scientific data regarding diets, nutrients and anxiety reveals that marine-derived n-3 fatty acids, as well as fatty fish, have health advantages. Micronutrients such as magnesium, zinc, some vitamins (such as B vitamins, vitamin C and vitamin E), the amino acids lysine and arginine, and a multivitamin and mineral supplement may be beneficial in the prevention and treatment of anxiety disorders. As a result, a balanced diet that adheres to food-based and nutrient recommendations may aid in anxiety reduction.

## **Suggestions**

Our diet and mental health have a complicated relationship. However, there is a connection between what we eat and how we feel, according to studies. Eating well can improve your mood. You don't have to make drastic dietary changes but try some of these suggestions.

- Eat consistently. This can prevent your blood sugar from decreasing, making you weary and irritable.
- Keep yourself hydrated. Even mild dehydration can have an impact on your mood, energy level and concentration.
- Eat a healthy fat balance. Healthy fats are required for your brain to function properly. Olive oil, rapeseed oil, almonds, seeds, oily fish, avocados, milk and eggs all contain them. Trans fats, which are commonly found in processed or packaged meals, are detrimental for your mood and heart health.
- Increase your intake of whole grains, fruits and veggies. They provide the vitamins and minerals that your brain and body require to remain healthy.
- Include protein in each of your meals. It contains an amino acid that helps your brain manage your mood.

- Take care of your gut health. When you're stressed, your gut can speed up or slow down to match how you're feeling. Fruits, vegetables, legumes and probiotics are all good stomach foods.
- Understand how caffeine affects your mood. It can disrupt sleep, especially if consumed close to bedtime, and some people report that it makes them angry and nervous. Coffee, tea, cola, energy drinks and chocolate all contain caffeine.
- Eating meals with others has numerous psychological, social, and biological advantages. They provide us with a feeling of structure and consistency in our lives, as well as an opportunity to reflect on the day and connect with others. Eating in upright chairs is beneficial to our digestion from a biological standpoint. Talking and listening also slows us down, allowing us to eat more slowly. Set aside at least one day a week to eat with family and friends to make the most of mealtimes. Choose an easy-to-prepare meal so that it does not become a chore. Share responsibilities so that everyone has a separate duty to complete, such as shopping, preparing the table, cooking or cleaning up. Turn off the TV so you can all chat and discuss.
- I often see a long line of cars waiting at the drive-through of fast-food shops at the end of the workday and people eating their meals on their way home on the highway. Please do not do that, not only it is dangerous but it's also not healthy for you.

I have covered a lot of information in this article, but the takeaway point is this: by making healthy choices of what you put into your body, it can result in physical and mental health benefits. If you are experiencing any mental health struggles, talk to your healthcare provider. Sometimes healthy lifestyle choices are not enough, and additional help is needed. Taking care of your mental health is just as important as your physical health, so do not hesitate to talk to your doctor about any concerns you may have.

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