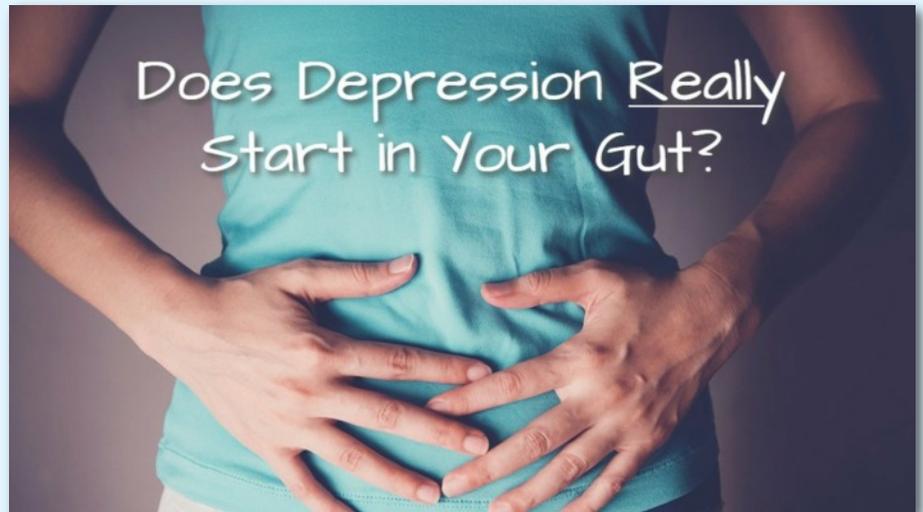


# Depression: Part 1

“More and more researchers are considering depression as a side effect or consequence of inflammation.”

I don't know about you, but it seems like almost everyone I talk to is feeling off, dull, and many say they are outright depressed. Is it any wonder? The world is changing so fast, and people are stressed to the max.

So, let's revisit some of the powerful tools at our fingertips. First let me direct you to a previous Tuesday Minute we did on Depression or Anxiety and the Gut-Brain connection. In that video we discussed how a leaky gut will allow Lipopolysaccharides, or LPS for short, to cross that single layer of cells that provide the gut barrier. And if they cross the gut barrier eventually, they affect the brain. Multiple researchers have shared the connection between a leaky gut and a leaky blood brain barrier. LPS that originate and should only be in the gut have been found in the brain of patients with Parkinson's, Alzheimer's, and severe depression. Even low levels of LPS have been shown to cause acute anxiety, depressive symptoms, cognitive deficits, and decreased visceral pain tolerance. LPS induced peripheral cytokine levels



can also cause reductions in serotonin production.

Substances like LPS shouldn't cross the blood brain barrier, but they do, and when they do, they activate the microglia, the immune system in the brain. Macrophages are then recruited, and the result is the release of excitatory neurotransmitter glutamate as well as other inflammatory cytokines like TNF-alpha, interleukin-6 (IL-6), and interleukin-1 (IL-1).

Think about what happens when people get a virus like the flu. They develop symptoms like depression, a condition that is referred to as “sickness behavior.” You see why more

and more researchers are considering depression as a side effect or consequence of inflammation. Reduce the inflammation, and the symptoms of depression and anxiety are reduced.

So, we're really talking about a leaky gut and the systemic inflammation that occurs as a result. We've talked about some of the causes of a leaky gut such as environmental toxins, highly processed foods, pesticides, food allergens, especially gluten and dairy, and of course stress, which can stimulate excess cortisol. Stress activates the sympathetic nervous system and downregulates the parasympathetic nervous

system which is responsible for relaxation, digestion, sleep, healing, and repair.

And if we are talking about a leaky gut, we must talk about the microbiome. Dr. Tereza Hubkova, who is presenting at the EPIC conference in May 2022, said, “it is impossible to have a healthy brain unless we have a healthy microbiome.” Just to give you an idea of the importance of the gut microbiome; a study showed that a single course of antibiotics increases the risk of depression 23-25%. If 2-5 courses of antibiotics are taken, the risk increases 40-56%. The risk of anxiety increases by 17% after a single dose of penicillin and 44% after multiple doses.

As clinicians, we know that the microbiome is really the core of a healthy gut. Not only does the microbiome digest many fibers to make essential short chain fatty acids, vitamins, and amino acids, but they also make many anti-fungal, antiviral, and antibacterial compounds. They protect and maintain the lining of the gut by detoxifying environmental toxins, creating healthy mucus, and keeping the pathogenic bugs in check.

Here's a quick overview of the healing process for depression. Support the microbiome, which includes healing the gut. Increase the release of anti-inflammatory cytokines. Reduce the production of pro-inflammatory cytokines. Increase the activity of the T-regulatory cells that keep excess inflammation in check. And address lifestyle factors that create sympathetic dominance and encourage parasympathetic support.

All of these healing processes are important, but let's focus on the microbiome. I remember Dr.

Vasquez said over 10 years ago, “we used to think of foods as sources of vitamins, minerals, and antioxidants, and they are, but the real value of our food is how it feeds our microbiome.” So, it's not just the high fat diet that may be loaded with additives and preservatives that supports the growth of pathogenic organisms, but the lack of nuts, seeds, vegetables, fruits, sprouts etc. that feed and maintain the healthy microbiome.

Scientists identify the microbiome as a living organism. We want to support it with real food and products like BioFiber Complete as fiber and probiotics like BioDoph-7 Plus. The average American ingests 15 g fiber/day. The goal for FIBER is 14 grams per 1,000 calories consumed, so for women that means about 25 grams a day, for men about 38 grams. BioFiber Complete combines 10 different types of fibers. Each scoop contains 5 grams of fiber, 3 grams of protein, and 4 grams of healthy fats from flax and chia seeds. BioFiber Complete is over 70% organic, gluten-free, dairy free, and GMO free. You can see a link to the right for more detailed info.

We know emotions have a powerful effect on healing. Consider using the Beck Depression Inventory to determine if patients are experiencing depression or just the normal ups and downs of life. This quick questionnaire could help open the conversation that you have solutions beyond pharmacological agents with side effects. Knowing options are available can give them the motivation they need to take the next step in their healing. It also helps motivate people to stay on an anti-inflammatory lifestyle.

Thanks for watching. I look forward to seeing you again next Tuesday.