How Your Microbiome Speaks to Your Brain with Dr. Vivian Asamoah, MD (ep – 74)

[00:00:00] **Dr. Vivian Asamoah** The gut-brain axis is a communication between your central nervous system to the brain and the spinal cord, and your enteric nervous system. Those are the nerve endings, basically the brain in your gut, right? Basically the nerve cells in your gut. And it is a bi-directional highway, which means your thought and stress can affect your gut. And the microbes and inflammation in your gut can influence your mood, clarity, and energy. And that's that interplay, that's that connection.

[00:00:32] **Dr. Ginger Hultin** It's in the headlines, your supermarket, and likely conversations with people you know. Gut health is everywhere and the science is evolving fast. So where do you start if you or someone you know is struggling with their digestion? On today's episode of The Good Clean Nutrition podcast, I'm joined by Dr. Vivian Asamoah, an integrative gastroenterologist to help us break it all down. From IBS to functional dyspepsia, constipation to get microbiome diversity, Dr. Asamoah offers a unique perspective that blends clinical medicine and holistic lifestyle strategies. Whether you're a health professional or someone navigating your own digestive symptoms, I know you'll learn something from this conversation. You may have heard that gut symptoms like bloating or constipation are just IBS and something you have to live with. But here's the truth. IBS and other disorders of gut-brain interaction are complex. They're biologically driven conditions that go far beyond just stress or diet. We now know that communication between your gut and brain through pathways such as the vagus nerve and microbiome signaling impacts not only digestion, but also mood, sleep and immune function. So if you've ever been told to just relax or stop stressing and your symptoms will magically go away, it's not that simple. I'm excited to break it all down with Dr. Asamoah. We're going to talk to a leading expert here about how your microbiome talks to your brain. But Dr. Asamoah, I wanted to revisit something that you told me previously that was so interesting, because I said I'm excited to interview a true expert, like yourself, and you mentioned that the real experts are more in the neuroscience area. I want to hear more about that.

[00:02:25] **Dr. Vivian Asamoah** So I'm an integrative gastroenterologist, Ginger, but as you dive into the topic of gut-brain axis issues, it's so interesting that the neuroscientists have been studying this for decades, well before gastro-neurology ever got into the mix. I think it's wonderful because we've learned so much from them. We're able to bring into the GI world and merge the two, but again, collaboration, right, that makes medicine way better. We are learning from the neuroscientists.

[00:02:54] **Dr. Ginger Hultin** It is this neurological connection. It is a gastroenterological connection. Dietitians play a role. I mean, there's such this important part of integration and you bring a blend of medical training and an integrative approach to GI care. And I'm interested in how you stumbled upon that. What is it about gut health that brought you here?

[00:03:17] **Dr. Vivian Asamoah** I've always been interested in the entire gut. And when we think about it, we often just think about the lumen. But there's the lumen from mouth to anus, but then there are all the other organs around it, like the liver, the gallbladder, the pancreas, all work in this intricate network of digestion.

[00:03:36] **Dr. Ginger Hultin** I'm interested in what some of the most common gut issues you see come through your door.

[00:03:40] **Dr. Vivian Asamoah** Well, Ginger, I am female and a gastroenterologist, so a rare breed, a very rare breed. And then thirdly, I'm integrative. So I'll tell you, my number one fan patient is probably a lady just like myself, someone in their between 30 and 50 with symptoms that they've had for a while that they often ignored because they were taking care of other people. And really now have to pay attention and really understand what's going on because they're getting frustrated. So in terms of, that's my patient population generally. I do see men as well, but I would say 70 percent of my patients are women. Women coming in with symptoms like constipation, I think that's a number one. And Ginger, I'm sure you'll agree. We are seeing so much. Constipation is really huge.

[00:04:32] **Dr. Ginger Hultin** It kills quality of life. Like it is so damaging and it really, really hurts people. But we're talking about the brain-gut connection. I will also hear the term brain-gut axis. Can you define that for the listeners?

[00:04:49] **Dr. Vivian Asamoah** And I think we are calling it like disorders of gut-brain interaction, diseases with DGBI. It's changed. But it's kind of the same concept. The gut-brain axis is a communication between your central nervous system to the brain and the spinal cord and your enteric nervous system. Those

are the nerve endings, basically the brain in your gut, right? Basically the nerve cells in your gut. And it's a highway. It's a two-way. It is a bi-directional highway. Which means your thoughts and stress can affect your gut, and the microbes and inflammation in your gut can influence your mood, clarity, and energy. And that's that interplay, that's the connection. And I think when a lot of people talk about gut health, they kind of think about the microbiome a little bit. It's like basically an ecosystem, it's like a forest. And this forest is basically composed of almost 40 trillion bacteria, viruses, parasites, archaea, and fungi in your gut. They've basically grown with you over these years. They're different amounts and different families and species and different strains that do completely different things. And what's really important about these microbes is that we don't exist without them.

[00:06:12] **Dr. Ginger Hultin** You mentioned something that was really interesting to me. You mentioned gut-brain axis and that highway that goes back and forth. How is it sending messages back and forth? I think it has to do something with the vagus nerve, but I'd love to hear more about like research there and some background.

[00:06:26] **Dr. Vivian Asamoah** So on that highway just imagine cables going front and back, like thick white cables, right, from that from the brain, the brain stem going down all to the spine, and yes that that main cable structure is the vagus nerve really important and that is bi-directional as well. But the vagus nerve can actually detect and adjust to temperature of liquid going down. If you drink something really hot it can adjust and detect. It can tell, like, oh this is really hot and my body has to adapt to let this go down or it's really hot and I have to reject that. So. It can adapt to temperature. It can adapt to distension, so any swelling or stretching of the lumen of the stomach, of the gut, really important, and all of that affects motility as well. So if your gut is, for example, producing too much gas, your vagus nerve can signal that back to the brain and say, hey, there's over-distension happening here, there's abdominal pain, cramping, there's what we call heightened visceral sensitivity. There's a lot more messaging actually from the gut to the brain than vice versa. A lot of the messaging is going from the gut to the brain. Serotonin is an important neurotransmitter, dopamine, GABA and acetylcholine are all produced in the gut and they help not just with motility and digestion, but they also help regulate inflammation all through this connection, the superhighway of the vagus nerve. So there's that, that two-way street is very important, especially from what's generated in the gut itself.

[00:07:53] **Dr. Ginger Hultin** When I think about serotonin and dopamine, I think about mood, and it's so interesting, the connection between the gut and

mood. And I'd like to hear a little bit more about your experience with that, what some of the research is saying about the gut bacteria mood connection.

[00:08:11] **Dr. Vivian Asamoah** I think it's always great to take it back to a clinical case. I remember working with a wonderful patient of mine in her maybe mid-40s, and she'd been suffering for five years with a lot of IBS-like symptoms. And she was extremely anxious. And I would say, yeah, I think she was actually depressed. She was extremely irritable. She was very frustrated. And I think for a couple of reasons. One, she could only eat 10 foods. She had restricted her foods so much that that made her frustrated. I mean, that would make me angry. Like she could barely, yes, function because she was so particular about the types of foods that she had to incorporate into her diet. And we worked with her for approximately maybe six months, and got her to a place where she was eating everything but five foods. So she was able to just open up her diet and start reincorporating foods into her diet, but her affect changed 100 percent. Like she was a different person. If you look at people who have mental, some dysregulation in their mental state, and you look the microbiome, those who are missing these microbes have symptoms like anxiety and depression, and those who have an enriched microbiome with these particular strains have mental wellness.

[00:09:33] **Dr. Ginger Hultin** Introducing Wonder Gut, Orgain's delicious probiotic drink mix that supports digestion, immune health, and overall gut happiness. It's packed with clinically studied probiotics, prebiotics, and plant fiber, all in one easy scoop. Find it at orgain.com. We are going to dive deeper into nutrition. We talked a lot how much conversation is happening between the gut and the brain, back and forth in lots of different ways. But for listeners who want to tune in and really listen to what their body is saying, what is one key signal you want them to not ignore? Like, what means it's time to take the next step to look at your gut health?

[00:10:16] **Dr. Vivian Asamoah** One key symptom, wow, that is a tough one. One key symptom. I don't know that there is one symptom, to be honest with you. I think it comes in, it's always going to be different symptoms happening, because the gut, when the gut is affected, you will have different types of symptoms. But the problem is they could all mean something different. Not everyone with diarrhea, bloating, constipation, and brain fog has IBS or what we call IBS. It could be something different. So I would say the most important thing for me is paying attention to your symptoms, monitoring them well, looking at associations with certain foods that you're eating that may be triggers, but also looking at the associations with stress. Stress is a big trigger, and when you can connect the dots and go back to your doctor and say, I have noticed that when I'm stressed or when there's a lot more anxiety going on and things

surrounding me seem a little bit overwhelming, I do have a lot more GI symptoms of bloating, diarrhea, and fatigue. Gone are the days where we will say, it's your stress, forget about it. I think in this conversation, what we're seeing is that it's biologic. Yeah. Something's happening in your microbiome, right? Something is affecting that highway, and most of it is starting from the gut going upward. We do want to see you in clinic.

[00:11:44] **Dr. Ginger Hultin** Is there any exciting research that you've seen that is changing and shaping the way you're practicing these days?

[00:11:52] **Dr. Vivian Asamoah** Oh, wow, there's so much research. It's just like coming out every day. And I love the fact that it's getting published in gastroenterology journals. So GI doctors have to pay attention. I think there's one that I saw just a couple weeks ago and that really shows that connection. And I think it's because of a couple things, right? So people who got Covid, there was that viral infection that triggered the immune system and dysbiosis and inflammation, attacking that enteric nervous system that we talked about by directional signaling. And it's not necessarily always a virus that's the trigger. It could be a bacteria, but it could be stress. So just think about the conditioning we were in, the isolation, the loneliness, the frustration. I think that in itself, people don't believe this, but loneliness can change your microbiome. Lack of support can change the microbiome, and there are studies that are showing that these human emotions which all result in neurotransmitter imbalance or some kind of shift can affect your microbiome. I think that's the most interesting thing when it comes to this very topic is that interplay of, I call it science and spirituality, right? How you're feeling deep within and how that translates to what's going on biologically or scientifically in your body.

[00:13:11] **Dr. Ginger Hultin** Let's talk about nutrition, which we both love, and talk about how we can influence that communication from eating, drinking, and lifestyle choices and how all of that impacts gut health. So I know that's a big area of your interest.

[00:13:27] **Dr. Vivian Asamoah** Absolutely is, and I'm so grateful for amazing dietitians like yourself and nutritionists who have definitely been a tremendous asset to my patients in practice because in the field of gastroenterology, I just don't believe we get enough training in nutrition. And it's always wonderful to collaborate and be able to provide not just a sheet of paper to our patients. But real guidance and practical tips and meet them just where they are. And I think that the great thing about bringing nutrition into this conversation is it is the biggest part of the conversation. It's a huge percentage, like in terms of how you can reverse this and how you heal. Where I usually like to start is really kind of

simple and getting patients to understand that there are certain triggers that will irritate that gut lining and cause that imbalance.

[00:14:25] **Dr. Ginger Hultin** I think a lot of people don't consider all the different aspects of what you put into your body. So like, let's say you're gonna flavor your water. I say this always, the sweet flavor comes from somewhere. So something like whatever you put in usually has some sort of sweetness, it's either added sugar, which you mentioned could be a problem for gut health, or it's going to be a sugar alcohol or a different type of non-nutritive sweetener. So that sweet always comes from some where and a lot those things can be irritating to the gut.

[00:14:52] **Dr. Vivian Asamoah** Very inflammatory for the gut. So yeah, they have to think about those things. So I like to start there. And then you mentioned lifestyle choices. Good sleep, right? 7-9 hours, not everyone needs to sleep eight hours or nine hours. I mean, just, you want to just wake up restful. And if you're using anything, if you are tracking by using an aura ring, it gives you a good sense of how much, how much good sleep are you getting? Are you getting deep into REM and all of that? So good sleep. Movement, extremely important. No one's saying you need to do Ironman three times a year, but some kind of activity, right, even if it's just walking and stretching on a regular basis, being able to handle stress, right? Being able to have some techniques that help handle stress.

[00:15:36] **Dr. Ginger Hultin** It's so critical and it's hard to change. Like you can't just say to someone, we'll sleep better, we'll be less stressed. That's why it requires like expert guidance to really be like, and how are you gonna do that? So I know that you have a team of dieticians in your practice and nutrition is a big part of what you do. What does a gut healing dietary plan look like? Like how do people work with your dietician?

[00:16:00] **Dr. Vivian Asamoah** It really depends in terms of what we're trying to get to, but when we're really specifically looking at gut-brain axis disorders or DGBI, we're working on, well, how do we restore this forest? How do we get green, luscious leaves and solid trunks and stable branches, right? We're trying to restore everything, and how do remove the weeds and everything? So we start with the basics, just like you mentioned, Ginger, fiber-rich foods, fiber-rich vegetables, just having that rainbow of different fruits and vegetables we include in that healthy fat. So we talk to our patients about veggies and polyphenols and what it means and what does this color bring and what kind of vitamins are you getting out of that. So they see the connection and when they're making choices, they're making choices not based on just the palette but also what is the nutrient-rich value for me. Talk about healthy fats. We talk

about nutrient repletion, and I know you do a lot of work with your patients on that as well. But overall, it's not a one size fits all.

[00:17:00] **Dr. Ginger Hultin** I meet people all the time that have been on a low FODMAP diet for years, and they're really restricted. It's a hard diet to follow.

[00:17:09] **Dr. Vivian Asamoah** It is. I love that you mentioned that. And the one of the reasons why it's hard to get off it and start reintroducing is that when you avoid eating these wonderful nutrient-dense foods like legumes and cruciferous vegetables and the right types of fiber right fiber fiber fiber like prebiotic-rich veggies as well like garlic and leek and asparagus and the fermented foods and all of that, right? Your gut, those microbes, are involved in digestion. You don't have them anymore. You lose that ability to digest well. You lose the ability to move that gut well. You lose an ability to make enough stomach acid. You rely on the microbes to have the right type of digestion. And so when you deplete your gut of those healthy microbes, you no longer can digest healthy food. And so the reintroduction process has to be slow and steady. I hear this a lot from people who say well I stopped eating gluten and now when I have a drop of gluten I'm like whoa, yeah, it's because your system has lost that ability. I also hear people who said I was lactose intolerant but when they start eating a lot more fiber and soluble fibers and they enrich in that microbiome, I kid you not, they can have dairy again.

[00:18:27] **Dr. Ginger Hultin** That is really interesting. I have not heard that before. That's amazing.

[00:18:33] **Dr. Vivian Asamoah** Yes, absolutely, absolutely. They can have dairy again.

[00:18:36] **Dr. Ginger Hultin** Yeah, it sounds like one of the foundations of what you try to do with your dieticians and your other practitioners is to expand the diet as much as possible.

[00:18:46] **Dr. Vivian Asamoah** Yes, well, absolutely yeah.

[00:18:48] **Dr. Ginger Hultin** Because then we get to support the diversity through different types of fiber. And the one thing you and me have mentioned a couple of times is Interesting research on polyphenols, which are plant compounds and antioxidants, like there's cool evidence showing that those are anti-inflammatory. It actually helped the gut.

[00:19:06] **Dr. Vivian Asamoah** Absolutely. Reduce that inflammation, chronic inflammation help repair that leaky gut. So important for creating that right environment to heal, you absolutely need that diversity.

[00:19:16] **Dr. Ginger Hultin** People often say to me, they're like, well, I don't want to be vegetarian or vegan. Do I have to be? And I'm like, no, but we need to increase plants. Like no matter what you're doing, we got to get more plants. It's the foundation of what's going to help you the most.

[00:19:29] **Dr. Vivian Asamoah** Absolutely, yes. And one thing I want to add is there's nothing like the food from the ground. A fiber supplement is not the equivalent at all. We get so much more, as you said, Ginger, we get not only the fibers and the prebiotic component of it and the polyphenol richness to the fruits that really can't be replaced with just a fiber powder. It's not the same thing.

[00:19:56] **Dr. Ginger Hultin** This is like the most important conversation, prebiotics and postbiotics, because I feel like that is an area of confusion for a lot of people.

[00:20:07] **Dr. Vivian Asamoah** So prebiotics are usually the foods that feed bacteria, and a lot of it is fiber-based. They serve as fuel to the colon, they feed the bacteria to be able to do their job. When it comes to probiotics, these are usually viable products that we hope will be able to engraft in the gut and enrich or shape up the microbiome. There's a lot of data. I mean, there's a lot of controversial studies or data, let's say, about when do you use a probiotics? Are they beneficial? Are they not beneficial? I think we are getting to this place of precision medicine where we are going to target which patient needs a probiotic, for what condition, what strength, and how long we're going to use probiotic for. Because I do believe that taking the same probiotic every day for a year is not doing anything. It's just a waste of money. Now, postbiotic, I like to say that those are the, postbiotics are the metabolites. Those are the gems, that's the richness, the diamonds that probiotics make. So these are non-viable, and they keep their biological activity, and they help secure the microbiota in terms of targeted therapy. That's what, it's basically what helps the microbiome do its job. That's the end product, right? That's the final goal that you want is a postbiotic. And I believe that we are really moving towards focusing on prebiotic, how do we feed, and postbiotic. What are the elements we can actually actively use to restore that gut barrier of function to restore the microbiome.

[00:21:53] **Dr. Ginger Hultin** From microbiome testing to the emotional toll of GI conditions, today's conversation reminds us how powerful and complex the gut really is. If you have digestive problems, it's not just in your head and it's

something you have to face alone. Dr. Asamoah helped us connect the dots between symptoms, science, and support.

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