

Dr. Jill

Your Functional Medicine Expert®
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Podcast:

[#115: Dr. Jill interviews Dr. Asia Muhammad discuss the Gut Liver Axis and the epidemic of NAFLD](#)

Text:

Dr. Jill 00:13

Hello everyone! Sorry for the pause there. I was waiting because last time I got this crazy echo and I was trying to prevent that from happening again. Welcome to another episode of Dr. Jill Live. You can find all of my episodes on YouTube, Stitcher, iTunes, or wherever you watch.

Dr. Jill 00:27

Today we have another amazing guest. And I always love—I just have the most fun ways of meeting people and connecting. Dr. Asia Muhammad, who I'll introduce in just a moment, I met her in Las Vegas last year. and we probably met in other circles. I'm sure we've kind of been around. And we were just talking. You are in St. Louis, Missouri, and I grew up just a few hours north of there in Peoria. So very similar.

Dr. Asia Muhammad 00:50

Yes.

Dr. Jill 00:53

So welcome! Today, we're going to talk about the gut-liver axis. Her specialty is gut health, which I love. I'm going to introduce her formally, and then we'll dive right in. Dr. Asia Muhammad values the power of lifestyle modifications to achieve optimal health. She uses evidence-based, science-based medicine to provide individualized attention to those in her practice. As a naturopathic doctor, she uses nutrition, exercise, supplementation with nutraceuticals, botanical medicine, and mind-body therapies such as hypnosis. She has a special interest in GI health, mind-body

medicine, and stress management. As increasing research shows, there's such a connection to health. She received additional training in mind-body therapies in hypnosis, guided imagery, biofeedback, autogenic training, which I want to know more about, and progressive muscle relaxation. So welcome, Dr. Asia Muhammad; it's so nice to see you again!

Dr. Asia Muhammad 01:47

Thanks for having me. It's so nice to be here and I'm so excited to chat with you today.

Dr. Jill 01:54

It looks like we wore the right color today.

Dr. Asia Muhammad 01:55

Yes.

Dr. Jill 01:56

I love it! So I remember meeting you. You had such lovely energy, and a gorgeous smile, and we were shaking and dancing a little bit.

Dr. Asia Muhammad 02:05

Yes, we were.

Dr. Jill 02:06

It was fun. I really remember that. So it's great to see you again and welcome! I always like to start with your story. How did you get into this world of healing? So tell us just a little about your journey.

Dr. Asia Muhammad 02:20

Totally! I was born in Ohio and we moved to Tennessee, so I went to undergrad in Tennessee. I was always into science and health. At the time, in Tennessee, there weren't any naturopathic doctors. So I was part of all the student medical clubs, and they'd always have doctors come in, of course, to talk. They were always conventional doctors. And I always knew I wanted to do more with foods and herbs and supplements and I didn't know what that was called. And my mom—we never had medication in the house. So this is how I was, I guess, primed in a way as a

young child. I was always into teas and herbal medicine. I didn't have my first ibuprofen until I was like 22, and I thought it was the best thing ever.

Dr. Jill 03:05

You're like, "What was this?!"

Dr. Asia Muhammad 03:07

I was like, "My mom was withholding all of this. This is child abuse," you know. But I'm glad that she did not instill this pill mentality into us. We were always problem solvers with our health. So when I was an undergrad, I wanted a profession that was similar to that. So I would shadow all these doctors, and in Tennessee, everybody's either an MD or a DO. You have chiropractors, but the chiropractors were doing more manipulations at the time, which I wasn't really familiar with then. So I was like, "Okay, this is not exactly what I want to do."

Dr. Asia Muhammad 03:36

So we had this book in our home of this woman who's an ND. It said ND in her title, and I'm like, "What is that?" It's this cool flip chart book where you decide, you know, "I want to find some tea" or "some reflexology points today"—for asthma, for period cramps. So it's literally an a-to-z flip chart, and I thought this was the coolest book ever. We had it in the house since I was a little girl, and anytime I was sick I'd look in the book. So I was really sick one semester in school and I think I was looking up things for respiratory issues. And I said, "It said 'ND,'" and I'm like: "What does this person do? I would love to just do this." So I googled 'ND,' and I literally had this epiphany. I was like: "Oh, this is what I'm doing. I don't care what they require. This is where I'm going." And that's pretty much how I became a naturopathic doctor.

Dr. Jill 04:22

Wow, good for you. Especially in that realm, because maybe in Colorado or California they're more common. Not always, but... I have a practice, and I have a naturopath who comes into the office and sees the patients as they walk in. And it's interesting; I am a medical doctor, but I actually remember looking at the same thing. I always say that I have the heart of a naturopath. And really the only reason I went through the conventional system was because, as you well know, reimbursement in the system is kind of stuck in that. And it's like, "Gosh, if I do that and if I want to travel or do mission work or even infiltrate and change the system..." right?

Dr. Asia Muhammad 04:55

Exactly! In Tennessee, naturopathic medicine is actually illegal. So that's why there weren't any naturopathic doctors there. I didn't realize that at the time. There are four states where it's illegal, which I didn't know at the time. But Arizona is where I went to school, which is kind of like the widest scope of practice for NDs.

Dr. Jill 05:14

It is very wide because I've had friends who have done it and they go to different states and they can prescribe versus not being able to. I'm so glad you did because, again, it brings such a wealth of—I told you before we jumped on, I always learn something new from my naturopathic friends. We're talking about the gut today, which both of us love this area. It's so key, like you said, with the gut and the liver. So let's start with, what is non-alcoholic fatty liver? First of all, 'NASH' is the old name, but now 'steatohepatitis,' right? Let's talk more about how you would treat someone or look at someone who has some issues with their liver, and why is it connected to the gut?

Dr. Asia Muhammad 05:54

So when I was doing my residency with two conventional GI doctors—a lot of GI doctors also see liver cases—we had all these patients that would come in from their primary care who incidentally found fatty liver on an ultrasound that maybe they got for like right-sided pain. They're like, "Oh, go see the GI." So they would come and see us. And the GIs I was working with, and still to this day, there's not an FDA-approved drug for it. It was just like, "Okay, well, eat better and lose some weight." Patients are like, "All right." Meanwhile, we're having Snickers and cokes from the reps bringing lunch to our office. So we didn't know what to tell these patients.

Dr. Asia Muhammad 06:35

Then I started digging deeper into the literature around non-alcoholic fatty liver disease, and what you find is pretty much like the liver manifestation of metabolic disease, metabolic syndrome, which is one of these drivers of inflammation, cardiovascular disease, and so forth. So I got into this rabbit hole of fatty liver research—non-alcoholic fatty liver research. And I remember seeing this woman who was in her 30s with cirrhosis of the liver. And cirrhosis is pretty much that end stage of liver disease where the liver is like a shriveled up raisin, and pretty much you have like 10 years of life left, they will estimate, after that point. And I just thought, "How could you not really know this?" That's the crazy thing about

non-alcoholic fatty liver disease; there really aren't any signs and symptoms beyond maybe some fatigue. But everybody's tired or fatigued. So how would you know? So that's how I got into fatty liver disease. Then you look at the research. Liver doctors—hepatologists—are now saying that in the next 10 to 15 years, fatty liver will be the number one reason for liver transplants, displacing hepatitis C and alcoholism. So I think it's an important conversation that we need to have.

Dr. Jill 07:49

I do too. That's why I loved your topic and I love that we're talking about it because I don't know if I've ever had an interview on the liver. But I think when I went to Switzerland, we did liver-gallbladder detoxes. I went two different years for a retreat. The German doctors there were so respectful. They would call the liver the 'queen'; "We need to respect the queen." I love it because, honestly, almost like Rodney Dangerfield, it doesn't get much respect, right? Like you don't know the symptoms. We just take it for granted, and we drink alcohol and we do bad stuff for our gut. And our liver is so precious; it's our detox organ. So we have this phase 1 and phase 2, and any toxic chemical that we come into contact with—again, as you well know—we have to take it through there and eliminate it. It's our car filter. It's like the filter in our car, so our blood is going through the body and next to the gut, getting all the nutrients and all the toxins and everything, and then it goes directly to the liver, which filters the blood. So it's just this really, really important thing that most people never think about. Like, who thinks about their liver, right?

Dr. Asia Muhammad 08:53

I know. It's interesting when you talk about the gut-liver connection because when you look at some of the literature, some reports will say 60%, some will say upwards of 75% of the blood going into the liver is coming from the gut, which is just like, 'why?' If you have liver issues, you have gut issues as well. And if you have gut issues, you also need to think about liver stress. I just think that in our modern world we isolate organ systems so much, [yet] they're all so intimately connected.

Dr. Jill 09:24

I could not agree more. Again, that liver-gut connection is really critical because often, if we want to heal the liver, we need to start with the gut. So where would you start with someone who comes in and they've been told by their doctor [about the condition of their liver] and they may feel okay, except they're a little tired? What would you start with? Would you start with their diet or supplements or things? What would you do for their liver?

Dr. Asia Muhammad 09:46

When I see folks who have fatty liver disease or liver issues, if it's non-alcoholic fatty liver disease, the best-studied interventions at this point are pretty much weight loss, managing blood sugar, insulin resistance, and dietary modification. Typically, I'll go through the list and go through diet diaries and see what they're eating day-to-day and kind of start just teasing things out. It's a lot of education. As you know, a lot of what we do is just education. So that's where I typically start. And I try to focus on a weight loss goal of like 7%–10% of your body weight because when you look at the literature, when you lose approximately that amount of weight, the fat in the liver also starts to go away. So you're improving your liver and you don't need to have repetitive liver scans or liver biopsies. We know—there's enough literature to say—just 7% of your body weight is enough to start stimulating those positive changes in the liver.

Dr. Jill 10:45

Tremendous. And do you typically have them cut refined carbs and sugars or anything in particular? Obviously, we know leafy greens and plant-based are ideal. And obviously, we know alcohol could be a big [factor]. What kinds of things are you asking them to decrease or increase?

Dr. Asia Muhammad 11:04

Typically, I will always ask them about their sugar intake. It's interesting because a lot of people have different ideas about sugar juices versus sugar sodas, which is why we're seeing a high amount of fatty liver in pediatric populations too. But I'm not a fan of high fructose corn syrup at all. I think it is the devil, and I talk about this often. When you look at high fructose corn syrup and how it's fractionated compared to, say, sugar in an apple or sugar in fruit, it's just too much fructose. And you have a high amount of receptors on the liver that will uptake that fructose, which is why it's particularly problematic for the liver. So I typically go through it and say, "Okay, what's your soda intake? What's your juice intake?—because most of these things are sweetened with high fructose corn syrup.

Dr. Asia Muhammad 11:48

It's interesting because I had a case a couple of months ago of a woman who was diagnosed with fatty liver disease with maybe stage 2 fibrosis where the liver is starting to scar up. I go through the diet diary and then I say, "Do you drink any soda?" They're like, 'No.' Then towards the end, we were talking about something and they were like: "Yes, I love ginger ale. I drink like a couple of cans a day." But in their mind, ginger ale wasn't soda. So it's just interesting across different cultures

how different things are not looked at as sodas or juices per se. So, I think just collecting a really good history is where I typically will start.

Dr. Jill 12:28

You're so right because I find people that almost universally [say], "I have a pretty healthy diet." That's a common line, right? What does that mean, though? Then they talk about it and they're like: "Well, I eat greens; it's a lettuce at dinner. But then I have chocolate and muffins and ice cream" and whatever it is, I don't know. That's something, right? The refined carbohydrates—so the processed corn, soy, and wheat and then the refined sugars and the sources of fructose—we know that fructose drives this process. Absolutely. And then the gut microbiome, I think, has something to do with it too. Do you do any testing, like stool or organic acids, or do you just talk through it? What do you do for looking at their gut?

Dr. Asia Muhammad 13:07

I do use stool testing to see what their microbiome looks like, in a sense, to see if there is anything that we're missing, maybe any yeast, parasites—doing more of a deeper dive. And when you look at the liver-gut connection, you can actually correlate how dysbiotic somebody's gut is with their kind of risk for fatty liver disease or liver injury. And that's based on the LPS molecule. When you have a certain type of bacteria in your gut, it releases this compound, LPS. It's going to go to the liver and it up-regulates these liver immune cells—these Kupffer cells—in the liver. It just kind of changes the liver from immune-balanced to now this heightened immune space, which contributes to more inflammation.

Dr. Asia Muhammad 13:53

I would say this: I've not done a single stool test on someone—I've seen thousands and thousands of patients—and not found dysbiosis. Obviously, people that are coming to see me have health issues. They're not just like: "Oh yes, I'm exercising, I'm eating the best. My lifestyle is this way." They're coming to a doctor because they need help. So you're going to see dysbiosis, but I'm just saying that it's so prevalent that at this point, for some people I don't even need to run it. It's like, "Let's just get you on a gut protocol, let's just save the money, and we can just put that somewhere else if you need that." But I've not seen a single person without some dysbiotic characterization of their gut.

Dr. Jill 14:36

Okay, I love that you say that because I couldn't agree more. Years ago, I would do a test for leaky gut, which is intestinal hyperpermeability, and it's at the core. So you

just mentioned something so key, that LPS is the bacterial coating of certain types of gram-negative organisms in the gut. They're not all bad. We have [gut] wall bacteria. But what happens is when they cross over from that gut lumen—which is that tube from the mouth to the anus—and then into the bloodstream with just one cell layer across, then that LPS coating is probably one of the most potent inflammatory triggers of the immune system, as you mentioned. We know now that it's literally probably the biggest risk factor for heart disease, [inaudible] for diabetes, [inaudible], but also for mood disorders like sleep [inaudible], insomnia, depression, anxiety, and even low testosterone in men. When I looked at the data on LPS, I was like, "Wow, this covers so much of the health problems, especially in our country." That's a big deal, and part of that is that permeability. But back to testing, I always said, "Now I just assume everybody who walks into the office has got leaky gut." And leaky gut is really the reason why we get bacterial translocation into the bloodstream and then [it's] dumping into the liver and then the fatty liver. That's the pathway, right?

Dr. Asia Muhammad 15:47

Exactly, yes.

Dr. Jill 15:49

So I love that you're the same way. I mean, I definitely test too, but there are times when I'm like, "We can just assume there's some dysbiosis."

Dr. Asia Muhammad 15:55

It's like: "Listen, let's just move beyond that. We know what's happening."

Dr. Jill 15:59

Yes. Do you use herbs like berberine or other herbs?

Dr. Asia Muhammad 16:04

I love berberine. Oh, yes I do. I will do an antimicrobial approach. I will add prebiotics to support what they have, and then I'll add different types of probiotics and go from there.

Dr. Jill 16:18

Are there any particular kinds of probiotics that you like for fatty liver? I don't know all the literature on that, but is there any particular strain?

Dr. Asia Muhammad 16:27

So I love using spore-based probiotics—spore biotics—so I use some of those. There's a company that makes a gut-liver probiotic now; it's a powder. I'm not sure if it's as potent as the Visbiome VSL powders, because those can be really intense. Basically, it's different lactobacillus strains and Bifido strains. If you look at the literature, you see a lot of positive findings for using lacto in the liver and kind of changing the picture around.

Dr. Jill 17:02

Oh, excellent, yes. And like you said, I love the spores too. I feel like they've been the game changers in the last decade. It's funny, though, because I had Crohn's about 20 years ago and I knew nothing about strains of probiotics. I do remember when I was really sick that I didn't know what these Bacillus coagulans were; it's a spore. But I didn't have an education [on naturopathy] back then, and it was the one that worked the best for me. I'm like, "Oh, no wonder." From what I know about the research, the spores not only have the ability to increase diversity in the gut, but with this LPS thing, this crossover, they're one of the best to protect—

Dr. Asia Muhammad 17:35

Yes.

Dr. Jill 17:36

So, yes, I totally agree with you there. So we talked about diet, we talked about interventions. Have there been any studies on activity?—obviously [for] weight loss [there has been]. What other things could they do with their lifestyle?

Dr. Asia Muhammad 17:49

When you look at activity, the type of activity matters. Simple walks are impactful, but sometimes breaking that up with higher-intensity exercise can also prevent the risk of fibrosis. When you have fatty liver, it's estimated that around 20%–30% of people who have fatty liver will progress to NASH, which is the inflammatory space. Of that amount, only a small percent actually progressed to liver cancer. But when you get to the space of inflammation, you're concerned about continual inflammation and inflammation scarring. They find that when you have intervals of high-intensity exercise, maybe really intense protocols, you have a reduced risk of liver progression to fibrosis. So the type of exercise also matters when it comes to fatty liver disease.

Dr. Asia Muhammad 18:42

It's interesting because they did some studies and they had people doing moderate-to-high intensity bike cycling. Even though these participants did not lose any weight, the fat in their liver was still reduced, and they actually reversed their NASH. So they reversed the inflammatory component of the liver and went back to just the basic fatty liver just by doing exercise, even though they did not actually lose any weight. They didn't shed any pounds on the scale, which I thought was wonderful because sometimes we get discouraged when we're trying to lose weight and we're not losing weight. But it actually does still matter.

Dr. Jill 19:17

Oh, fantastic, yes. That's encouraging because some people are kind of feeling stuck and maybe not losing the weight they would like to, but still, that would make such a difference. It's really encouraging. You said the high intensity—

Dr. Asia Muhammad 19:30

So it's moderate to high-intensity exercise, yes.

Dr. Jill 19:34

Excellent. Any other nutrients? I've read some on tocotrienols which is a form of—

Dr. Asia Muhammad 19:38

Yes!

Dr. Jill 19:39

What else is out there?

Dr. Asia Muhammad 19:39

I love vitamin E for fatty liver. There is a study [where] they compared vitamin E with pioglitazone, which is a medication that's commonly used for diabetes. They found that in the vitamin E group, the people who took vitamin E—I think it was around 800 IU daily—they found that they had a slower progression of the inflammatory changes in their liver compared to the group that took pioglitazone. Neither one of the therapies actually reduced the risk of fibrosis, but it actually did reduce inflammation in the liver—vitamin E did more than pioglitazone. So I love

vitamin E. I love telling people to increase their nuts and seeds and then add in vitamin E. I love tocotrienols and tocopherols; I love all that.

Dr. Jill 20:26

Fantastic. Are there any other nutrients that we haven't talked about that you feel are really crucial to liver health?

Dr. Asia Muhammad 20:32

Yes, zinc is really important for the liver. The liver loves vitamin C. Sometimes I'll do this test looking at people's intracellular/extracellular levels of vitamins, minerals, and nutrients to see where they're at. A lot of times, you see people who are really low. Their serum vitamin C is okay, but their white blood cell vitamin C would be really low. It's not shocking, but it's really interesting to see that. And it just plays on conventional blood work, and if it's actually getting to the whole picture of the person. So when I do that and I see low zinc levels, I'm like honestly [inaudible] increase these foods [inaudible]. So I'll do zinc, vitamin E, and vitamin C. I'll do glutathione. You pretty much find glutathione low across all chronic diseases, right? And you see that in the liver. Glutathione is most concentrated in the liver. So it makes sense that when somebody has fatty liver disease, their liver is in a state of inflammation oxidation, so you're going to be burning through that glutathione. So I'll have people do glutathione as well or the precursors [such as] NAC. I like different amino acids to support that. And then as far as nutrients go, that's pretty much where I start. And alpha-lipoic acid is amazing, by the way.

Dr. Jill 21:48

Alpha lipoic, yes.

Dr. Asia Muhammad 21:49

It's great for the liver.

Dr. Jill 21:51

Yes, so you mentioned my favorites: glutathione, NAC, and alpha lipoic acid. And then milk thistle [which] I'm sure you use.

Dr. Asia Muhammad 21:57

Yes.

Dr. Jill 21:59

Do you prefer a supplement or a tea? Or how do you like to use milk thistle?

Dr. Asia Muhammad 22:04

I prefer a supplement. I find that the component you're looking for in milk thistle that's been studied for liver disease, you can't really extract it that well with tea unless it's really, really hot and then you know... So I will typically do capsule formulations for that. One of my favorite herbs to use for all things liver metabolic disease is *Gynostemma pentaphyllum*; it's a Vietnamese herb. But it's interesting because you have animal models and human models. In this one human model, they took treatment-naive diabetics, and they gave one group green tea, and another group the *Gynostemma* plant. They had them drink six grams a day for 12 weeks. And they measured their A1C scores. After 12 weeks of drinking the *Gynostemma* versus green tea, the group that drank the *Gynostemma* had a two-point reduction in their A1C score. The *Gynostemma* also reduces fat in the liver. This is an animal model. They found the liver weight of the animals after the study was significantly reduced, and they knew it was fat that was going away. So I love that. It's a really, really safe botanical, so I'll have them drink that. They can eat it or they can get it in capsules. But in the studies, it was just studied as a water extract, so a tea.

Dr. Jill 23:17

Oh, fantastic, that's great, great information—super practical. And then let's, before we let you go, you talked about your expertise in mind-body and all these other therapies. I think that crosses any area that affects us, right? Definitely the liver, but all areas. How do you implement those kinds of mind-body things? Do you do hypnosis in the office as well? Or what else do you do?

Dr. Asia Muhammad 23:42

I love mind-body because when you think about chronic disease in America, in my opinion, it starts in the mind. There are so many subtle suggestions around us. You see these big billboards for "New nacho fries at Taco Bell!" and then the next week you're eating natural fries. You don't know where that came from. It was a suggestion from a week ago from a billboard that you saw. So I'm really big on mind-body just because it all starts as a thought. So I will do hypnotherapy in the office. I'll record hypnosis scripts customized for people and just have them play them over every night. They're like 15 or 10 minutes long. I'll do muscle relaxation, just going through and verbalizing, essentially just giving more suggestions to the body for how to relax itself. So yes.

Dr. Jill 24:26

Tremendous, and so powerful. It's a whole new conversation, but sympathetic or parasympathetic. Sympathetic is that fight or flight [response]; parasympathetic is [a] rest, relax, digest [type of response]. So, especially for the gut and liver, we need that parasympathetic [response]. But most of us are going around with 90% of our time in the sympathetic go-go-go-go, fight-or-flight [response mode]. So this is great. Let's say they couldn't get your recordings or any of that. Do you have any practical ways that someone could implement those things themselves, like before bed?

Dr. Asia Muhammad 24:54

Yes. Literally, I will tell folks, all you need to do is take out the recording app on your phone and just record affirmations to yourself, and make it into a longer script. Anything that's positive, anything you want to accomplish, say that to yourself and just play it in the morning. Play it before you go to bed. It could be as simple as, "I'm going to make healthier choices" and this looks like X, Y, and Z. "I'm going to go to the park and my ideal goal is to look this way" or "to be able to walk with my kids," or so forth. So just by saying those things, it's interesting how we can rewire our brain with just verbal suggestions.

Dr. Jill 25:34

Oh, I love that. I remember five or six years ago, I was like, "I want to start to change this," and I started going on a walk, and I would every day be like, "Every day and in every way I'm stronger, healthier [inaudible]."

Dr. Asia Muhammad 25:44

I love that! "Every day in every way I'm getting better and better."

Dr. Jill 25:47

Exactly, so like I would literally say this every single day in this little thing and everything started to... It really does work; it's practical. And you can pick anything, it's just repetition. And what happens is that our subconscious doesn't have the filter that our analytical mind does—like being nervous—so in the subconscious, it'll be like: "I believe this, so let's go!"

Dr. Asia Muhammad 26:09

Yes, I love that! The mind works that way. It's so simple. Honestly, I think humans think we're so deep and complex, and we're really not.

Dr. Jill 26:17

Again, you know this well; the subconscious will just play it out just like in the script. Well, Dr. Asia Muhammad, it is a pleasure just like before when we met. I love your joy and vibrancy. I love what you're doing there in St. Louis, near my hometown. And thank you so much for coming on today. Where can people find you if they want to know more about what you do or if they're near St. Louis?

Dr. Asia Muhammad 26:40

Yes, totally! So pretty much, my website is the best way to find me. It's asiamuhammad.com. You can reach out there and contact me. I'll be in a brick-and-mortar space this month, actually. Post-pandemic I'm getting back to seeing people in person, so I'm excited about that. I offer online educational-type webinars and events.

Dr. Jill 27:02

Perfect. We will link up or wherever you're watching this, you'll be able to find her website and links. And thank you again for taking the time to talk about the liver with me!

Dr. Asia Muhammad 27:12

Thank you so much for having me. This was great!

Dr. Jill 27:14

You're welcome.