**The Health Edge**

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**Nutritional, Supplement, and Lifestyle Strategies for Managing Depression**

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| Mark: | Welcome to The Health Edge, Translating the science of self-care. Always glad to be with our listeners. We appreciate your listening to The Health Edge. I'm Dr. Mark Pettus. I'm joined by my friend, colleague, John Bagnulo. John, good morning, buddy. |
| John: | Good morning, buddy. How are you doing? |
| Mark: | I'm doing great. |
| John: | Excellent. |
| Mark: | It was awfully nice to see you and your family and to be with the Functional Formulary team down in Ohio not too long ago. Great project, great product. It's been a lot of fun being part of that. |
| John: | Yes, it was. It was great seeing you, buddy. It's great being together for a few days. |
| Mark: | We are going to touch on a topic, John, that probably touches and impacts more lives around the U.S. and around the world more profoundly than any, and that's depression. In the context of this discussion, John, we're really going to be focusing on some of the non-pharmacologic approaches to depression and particularly with respect to nutrition, the gut. Then, the time that we have, we'll dive into this. I think a lot of people are going to be interested, John, in alternatives to what has become a very pharmacocentric approach to depression. |
|  | Like many things that we talk about, it's not like there isn't a place for pharmaceuticals, but they really have become the script and the algorithm. So many people end up on multiple meds. They go from one to another based on how they're working. We know from a lot of what is published that much of what has been approved by the FDA is really often not that effective and can be met with lots of side effects. I know you get a lot of this in the talks that you do. I certainly hear a lot about mood disorders in the talks that I do. It will be really good to get into this topic. |
| John: | Yeah. Mark, I don't know the exact numbers, but I'm pretty certain that depression is at an all-time high. We've never seen an incidence of depression like we have now. |
| Mark: | If you look at the epidemiology, John, it's estimated now that approximately 10% of Americans confront depression. Depression from the perspective of requiring treatment as opposed to that sad mood, which we all get from occasion that may come and go around a particular scenario and it just fades away in a matter of weeks. If you look at people with more chronic symptoms that seek treatment, it's fully 10% of Americans. Then if you look at people, John, epidemiologically, that would be criteria for moderate to severe depression in their lifetime, it's as many as 1 out of 4 people in their lifetime will meet criteria. I'll talk a little bit about a screening tool in a second, John, that we often use in our clinical settings. People can do this themselves to try to get a sense of just how significant their mood may be. This is a very prevalent problem. Like everything that we talk about, the prevalence is going up. People are continuing to struggle more and more with mood and their ability to function in life day to day. This is a major issue. |
| John: | Yeah. Mark, you wonder how much of this depression coincides with other conditions that are reflective of systemic inflammation or dysbiosis. I don't think we have the numbers on that because I think, unfortunately, most of medicine isn't really looking at depression as a downstream byproduct of these other imbalances. You got to believe based on the research, right, that I know you reviewed and that we've talked about in the past. You got to believe that this depression is secondary or sometimes, even further downstream that a lot of issues that also cause like heart disease and diabetes and all kinds of gut issues. |
| Mark: | It is a really important issue, John. Historically, and even currently, there is still this tendency in Western medical models to categorize depression as a psychological, psychiatric issue, separate from body. It's something in the head that needs help, where we know that depression and inflammation, I think, John, is a really good way to frame this. We'll focus on that root cause. Inflammation is clearly a root cause for both depression and other chronic complex diseases. Depression, to your point, frequently coexists with those other chronic complex disease, be it diabetes, be it a heart disease, be it Alzheimer's, be it cancer. What's really interesting and not surprising is that if you're admitted to the hospital, John, with chest pain and you are found to have angina or you're having a heart attack because you've got obstruction in your coronary arteries, which we know to be an inflammatory process. You also happen to meet criteria for depression while you're in being treated for that heart disease. |
|  | People with coexisting depression, when you follow them over time, many months to years, have much worse prognosis. Heart disease with depression makes much more likely that you're going to die of your heart disease or that you're going to have more heart attacks, more complications as compared to people who do not have depression. Depression is an independent risk factor. The way that I look at this, and I think the way that a lot of us look at this in integrative functional models is that depression is really just another manifestation of inflammation in the body, though in this case, it's probably more in the brain and impacting neurotransmitters and mood and cognition and resilience and stress states. There's probably something about the experience of depression for the individual that might even suggest a greater magnitude of inflammatory underpinnings. |
|  | It's a very important issue because historically, we didn't think much about it. If you came in with a heart attack, we just focused on the heart and did a lot of interesting stuff for that. If you ignore or don't address head on a person's mood, you missed a tremendous opportunity to help that individual reduce their risk over time by more thoughtfully addressing that. There are many complicated psychosocial determinants as you know. It's a huge risk factor in addition to just being a quality of life that for so many is profoundly horrible and difficult. |
|  | One thing I wanted to mention, just off the top here, John, is that we and our health system, it's become a standard of care in most primary care offices and hospital settings to use a screening tool. We call it a PHQ-9. P-H, as in the letters, Q9. Essentially, it's 9 questions that are based on over the last 2 weeks of your life, have you been bothered by any of the following problems? I'll go through them very quickly. Based on each of these 9 problems, whether it didn't impact you at all over the last 2 weeks, maybe for a few days over the last 2 weeks, more than half the days over the last 2 weeks or nearly every day. There's a graded response ad then this is quantified. |
|  | Over the last 2 weeks of your life, have you been bothered by little interest or pleasure in doing things, feeling down, hopeless. Hopelessness, as I think, everyone knows, is essential to the experience of depression. Trouble falling asleep or staying asleep or sleeping too much, feeling tired or having little energy, poor appetite or for some, overeating, feeling bad about yourself that you're a failure, you've let yourself down, you've let your family down. Trouble concentrating on things such as reading the newspaper, reading a book or just staying focus at work and the tasks that you have in your job. Moving or speaking so slowly that other people will notice that something's not right. Then the last of the 9 questions is around thoughts. Thoughts that you might be better off dead or hurting yourself in some ways. |
|  | Each of these questions has an answer of either not at all, several days, more than half the days and nearly every day. If anyone is concerned about their mood, they may want to look at the PHQ-9. I'll put it up on our website, John. Anyone, typically, the way this works is that if you score less than 10, you're probably like a lot of people just occasionally a little down and dealing with the stress life and lots of responsibilities, but not something that one would consider a major health issue. To that 10 to 15 or so where, maybe you are on the edge. That would be a red flag to be thinking about, either discussing that with your health care provider or examining more carefully how you can begin to implement a lot of what we talk about by way of lifestyle and influencing one's environment in a way that can help reduce that risk from getting worse. Then, if you score greater than 15, the highest score you can do on this is, it's like 27. Then, you may be at risk for major depression. Those are individuals that need help. |
|  | Again, it's not to say that an anti-depressant might not be appropriate for those people, but a lot of what we're going to be talking about over the next half hour or so can significantly bring symptoms like that under control. The PHQ-9 is a valid tool. It may give people a bit more of a quantitative sense of whether what they're experiencing is a big deal or just part of the challenge of navigating life. |
| John: | That's great stuff. |
| Mark: | In thinking about depression, John, we frequently talk about root causes in inflammation, this imbalance or disrupted regulation of one's immune system, we know, is a major influence of sad mood. There's very good evidence in the brain, whether you're looking at PET scans and functional MRIs or glial cells, these special Navy seal immune cells in the brain, the essential nervous system tend to be overactivated. We sometimes look at other markers of inflammation like C-reactive protein. We know that inflammation very much is foundational in people who are experiencing depression. I know that you and I both like to think about lifestyle in terms of what impacts are on inflammation. If you can begin to get some of those things under control, often mood will improve significantly. Maybe a good place to start there, John, as we often do is we'd sort the relationship between diet and the gut. How would you begin to help someone understand those relationships? All right, good. |
| John: | Okay. Yeah, Mark, I think that the gut has a profound influence on all of our systems. Whether that's due to inflammation or that's due to the effects of particular microbes and some of the substances that they produce, it's always the first place that I start. I look at nutrition and how it relates to depression as well as other mood disorders, I look at it, Mark, as is there something in a person's diet that's offensive, that is driving inflammation, that is crossing the blood brain barrier and having some really unique effects. Or is it a deficiency? I think that, don't get me wrong, and there's really good evidence that a lot of Americans have profound deficiencies and particular nutrients, something like magnesium. It's really a common deficiency. |
|  | I think it's always good to start with some kind of elimination diet. It doesn't have to be as strict in elimination diet as maybe it would be recommended for a real overt gut disorder, where someone is coming into the office because they're having chronic gut pain or they're having diarrhea or something along those lines. I think it bodes everybody well to start with a gluten-free dairy free diet for a while. Maybe soy-free as well. To do that for 30 days, I think 30 days is warranted because I'm not sure if neurologically or when it comes to depression, if a week or 2 weeks is enough. I think it's good to start with that for 30 days. |
|  | As you know, it's always good whether you get something to eat more fermented foods or you have them ... Try to use a probiotic. It's good to, at least, offer a transient shift in the microbes, in the particular profiles of microbes that are there. I always start with elimination diet of some sort. Again, it might not be as rigid as one would recommend for really clear signs of gut dysbiosis or if someone has a particular pattern of food allergies. I would definitely start with an elimination diet. I probably introduce a probiotic of some sort. |
| Mark: | Hard to go wrong with that approach, John. I do the same. I think that if you look at whether it's celiac or non-celiac gluten sensitivity, we know that this "nueropsychiatric issues" are very prevalent in those individuals and often [cleared up 00:15:16] dramatically when you eliminate gluten. Then we talk about, often the case, with grains in general, but certainly the gluten-containing grains, how those carbohydrate-dense foods, we know can up-regulate inflammatory responses so that some people feel great off-gluten even though their problem may not be gluten specifically, but it's more of their unique microbiome and its interaction with this gluten containing grains. The lectins that we know can also enhance zonulin and permeability. |
|  | I think, John, and I know that you know so much about this that many of these phytates in grains that bind essential minerals like zinc, which we know is really important for mood. Many people with depression have zinc deficiency states that often go totally unrecognized. Most physicians, Western-trained physicians aren't going to go there in the same way that we think about magnesium. I think that the whole gluten grain carbohydrate-dense, and then you bring up dairy and casein. I know you often talk about, John, about the A1 beta casein and modern forms of dairy production that for some, not for all, necessarily, but for some, can definitely be pro-inflammatory. Those are great examples of trials that one can do that, in a relatively short time, can begin to distinguish some relationship in their lives with respect to mood. |
|  | I love what you said about the microbiome, John. Like so much of what we talk about now, this is just an exploding field. I'm seeing more and more papers. We'll put a few up on our website that are relating the gut microbes to mood. We've talked about the fact that we know that this ecosystem is, in some way, responsible for neurotransmitter production such as dopamine, such as serotonin, things that we know that impact mood and attention and pleasure that are happening outside the brain. This is happening at the level of the gut. We know that many probiotic interventional trials or trials that have used fermented dairy products and functional MRI imaging will show significant changes in the brain and in mood. |
|  | We know that these organisms can not only help with neurotransmitter function, they can help modulate or balance inflammatory responses. We know that they have impact on the stress response and cortisol and anxiety states and even this thing we call BDNF, right, brain-derived neurotrophic factor, which can enhance neuroplasticity. I think probiotics, while the ideal probiotic for any one individual is never one that anyone can predict is definitely a very safe non-toxic thing that's worth trying. Some species and trials that I've looked at, John, that had been more widely studied would include things like bifidobacter, long-gum brevis, lactobacillus plantarum, rhamnosus. I think this is still a wild world of uncertainty. We know that some strains in those studies that have been published do seem to help improve mood and anxiety states. |
| John: | Yeah, absolutely. The studies that you referred to earlier, Mark, done with basically yogurt, a very commercial yogurt. The study was funded by Dannon, of course, the major parent company of several yogurt companies. The strains of bacteria that were used in those studies that produce very favorable results in women, in particular, when they look at the MRI, post-intervention, we're talking about 2 or 3 species of very common lactobacillus bacteria, acidophilus being one of them and bulgaricus as being the second. When you get results with 2 bacteria that are as close to inert as those are, when it comes to the production of neurotransmitters as you imagine, it's really, it speaks to the volume of potential, I'd say, when people start to incorporate other species of bacteria, some of which you mentioned. |
|  | Then if an individual is really interested in experimenting with probiotics, looking for other strains of bacteria, these are harder to find, though. They typically are more expensive, bacillus subtilis, bacillus coagulans. Even considering a probiotic, you may have to get this from Europe such as Mutaflor, which contains a non-acid resistant E. Coli, not the type of E. coli that you'd get in eating an under cooked burger from Jack in the Box or anything like that. It's a whole different strain of E. Coli, which is really a big part of producing dopamine. Those are the strains of bacteria, I guess, where I'm going with this, Mark, that there is research linking them to more effective production of neurotransmitters, better mood overall in the animal studies. |
|  | When you start to incorporate some of those kinds of probiotics, I think the sky is the limit for a lot of people. Unfortunately, those probiotics, whether it be something like Mutaflor, which is, I believe, manufactured in Germany or Prescript-Assist. Again, [inaudible 00:21:06] affiliate with any of these probiotics. These are so much more comprehensive than taking whether it be eating yogurt or taking acidophilus-type culture. These studies, I think, again, they just give us a real, real small window into what the possibilities are when it comes to probiotic intervention. |
| Mark: | What's so amazing, John, when you look at this research, even though there are still many more questions than answers is the fact that one's mood, one's cognition, one's really experience of joy or not in their lives is being influenced at that level. I think that alone, that the gut brain relationship has been a bit of a revelation in the modern medical sciences and in the life sciences because all that we talk about at that level, John, is profoundly remediable with various lifestyle changes. None of the typical pharmacologic approaches are going to, in any way, get to the roots of those particular issues. More to come there. |
|  | I would remind our listeners, John, if they're new to The Health Edge, that we've had several podcast on the gut brain connection and the microbiome and things like SIBO, mind mood and food and some of that. To go back and look at our library of recordings, they can get a lot more depth and information there. |
| John: | Mark, let's just back up just for a second. I want our listeners to understand 1 thing, what we've just explained so far. We are humans that is very good at compartmentalizing symptoms, conditions. People have things going on in their head. They think it's all in their head. What you and I are saying is that if your day looks like this, if you start out the day with a bagel, if you're putting milk nondairy creamer in your coffee, if you're having a bowl of some flake cereal with skim milk and a slice of toast, if your lunch is a Sub sandwich with some processed cheese, you may be an individual that is getting gluten and casein at least 1, maybe 3 of your meals a day. |
|  | These molecules can enter circulation. They can reach the brain as either gluteomorphins or casomorphins. These are fragments of those proteins. They can have profound influences on the way your brain functions, the way you look at life, and getting the stuff out, cleaning these types of offensive ingredients to many people, getting that out of the equation, taking that stuff off your plate is the first and most fundamental step to investigating why you feel the way you do. |
| Mark: | Yeah, correct. |
| John: | I just want to make sure people understood that this was ... A lot of these foods that people are eating, Mark, they consider them to be all natural, sometimes they're organic. What we're talking about is gluten, casein, and maybe even soy, getting those things off of the plate for 30 days so that you can get that stream of offensive inflammatory molecules out of your bloodstream. |
| Mark: | Beautiful, John. We talk a lot about eliminating those things that could be provoking an immunologic inflammatory response. We talk about nutrients that might help the gut like zinc and zinc carnosine, particularly, in doses of ... At the 30 to even 45 milligrams a day in some trials has been shown to improve mood significantly. Zinc is low-hanging fruit as a supplement for somebody dealing with a mood disorder. We talked about the probiotics, and there are so many brands. Trying something is better than trying nothing even if you're just of exploring which brand might be most affordable to you and most tolerable to you. We've talked about SIBO, the small intestinal bacterial overgrowth. Again, we can refer folks back to that, some of the podcasting we've done in that topic because that does have specific treatment that may respond to an antibiotic like Xifaxan or Diflucan for yeast overgrowth. |
|  | There are other strategies that can help manage all of these ecological issues of the gut that for so many will profoundly improve the quality of their life and behavioral health. To your point, John, even though we may be talking about depression, people who also noticed, "Yeah, I have more energy. I have less pain. My libido is better. I'm feeling a bit more resilient. My bowels are moving regularly, et cetera, et cetera." All these other things start to improve because you're addressing the same root causes of those things. That's the magic of this. |
| John: | Yeah. I think what you mentioned just a moment ago, yeast overgrowth, systemic fungal infection, if someone has whether it's discolored toenails or they particular topical skin conditions, whether it's been diagnosed as dermatitis or eczema, whatever it is, look at those things in conjunction with the depression as being highly indicative of the source of these issues, being some type of overgrowth, whether it be yeast, or as you mentioned, it could be some other form of SIBO. |
| Mark: | Yeah. Let's shift here, John, to just another vast topic of methylation. Methylation, a important biochemical metabolic pathway in the human body that does many things but is certainly central to neurotransmitter production and function, whether it's serotonin, melatonin, dopamine. Methylation essentially is relatively simple biochemical reaction that depends heavily on B vitamins, certain B vitamins, John. How would you bring some clarity to the role of B vitamins in this important issue of depression? |
| John: | I think some of our foods, and I always say to people, if you're eating foods that are heavily fortified with B vitamins, you might be eating the wrong foods because most of those are highly processed breads and pastas and things like that. There's some pretty good evidence, Mark, that a significant percentage of Americans miss out on one or more of the B vitamins. Whether it's B12, because someone has low levels of intrinsic factor being produced in the stomach, which B12 can certainly be tied to depression, especially in individuals who might be getting up there in years. There's some really good data around B12 and depression. |
|  | Often, these things fly under the radar, Mark, because someone might have a slightly elevated MCV, mean corpuscular volume, which could be the red flag for B12 deficiency. Someone might be bruising easily or showing those types of symptoms. A lot of people are walking around out there with either B12 deficiencies or a folate deficiency. There's a lot of different reasons. We could do an entire podcast on why these people develop these B vitamin deficiencies. Originally, there's a long list that range medications to genetics. |
|  | On the topic of genetics, we know that about 1 out of 8 Americans has what we call an MTHFR gene expression, where they are homozygous for this [deletion 00:28:32] , which basically prevents them from using folate as effectively as the person next to them. When that happens, if someone has this MTHFR mutation, then they're going to require more folate. I think it's going to really require they use folate supplements, so that they can perform the methylation required. There's a strong link between that MTHFR, that methyl tetrahydrofolate reductase gene expression if someone is homozygous for that. There's a test people can have done at their physician's office if they're concerned about this. There's a real strong link between that gene expression and depression as well as other things such as colon cancer, heart disease. |
|  | That's an example where some people just genetically need more folate. I wouldn't want to forget this in this discussion. I want to make sure that the folate they took was under the trade name Metafolin, which is about 50% methyl tetrahydrofolate and about 50% folinic acid. I think you're absolutely right, Mark. I think starting with addressing B vitamins as well as those minerals and trace minerals, magnesium, zinc, iodine, this is that second part of the story. You've got maybe things in the diet that are causing problems and are creating imbalances and are creating inflammation. Then you could have something as simple as 1 or 2 more B vitamin deficiencies coupled with [inaudible 00:29:54] of thyroid gland. You start to get the perfect storm. You start to get every single one in the wrong direction. |
| Mark: | Yeah, absolutely. That was a beautiful synthesis, John, of a huge topic and a complicated topic. This genetic predisposition and in addition to diets that may not have sufficient, and these are usually animal protein sources of B12 and folate, maybe at unique risk. You add to that dysbiosis in the standard American diet and sleep deprivation and insufficient exposure to full spectrum lighting, and all of that will add up to significant disruption of human biology, and in this case, certainly impacting neurotransmitter brain function and ultimately, mind and mood. While many physicians still aren't that familiar with the methylene tetrahydrofolate acid reductase test, it is readily available. I've yet to encounter one and ensure that wouldn't cover it. Certainly, if someone, as you point out, John, is a homozygote, in other words, they really are ... Their gene that does this methylation is probably only working at about 30% normal certainly would benefit from methylated forms of B12 and folate. They're very inexpensive supplements out there that people can try. |
| John: | Mark, on that topic, so many individuals are mostly women I had found have been tested for this because their OB/GYN is share on this issue and realizes that you this is why many children are born with spina bifida because the woman carries that particular homozygous MTHFR expression. Then, the child doesn't have adequate amounts of folate for normal spinal development. I found that more OB/GYNs are very open to testing the MTHFR. They may already be testing for it. It falls under that category of overall methylation test. |
|  | Homocysteine is a really good one for that. I know you feel very strongly about this as well. I think everybody should have homocysteine test done at some point because it will capture those individuals who maybe the [occuring 00:32:23] that MTHFR gene as well as maybe catching people who aren't absorbing B12 for whatever reason or aren't getting adequate amounts of vitamin B6, pyridoxine. I just think there's test out there that if a physician is open to doing and if their patient suggests that they're not feeling well, maybe they [exhibit 00:32:44] a couple other symptoms, but the homocysteine test, if someone is detected, can really start to take them down the right street. |
| Mark: | It's a surprisingly hard sell these days. |
| John: | I know. |
| Mark: | Homocysteine, just to add to what you were saying, John, if a person has a high homocysteine level in routine blood work, homocysteine is one of those metabolites biomarkers that if it's high in one's blood, it means there's a methylation bottleneck. Unfortunately, John, as homocysteine has been used in cardiovascular interventional trials using B12, folate and has failed to show significant reductions in cardiovascular outcomes, it has more or less been abandoned as a useful biomarker to follow, totally missing the nuance issues that we're discussing with respect to methylation pathways. There are so many issues with the studies that had been published. |
|  | Homocysteine is another really helpful test, particularly when it's elevated. It's also very inexpensive. Again, I've yet to see and ensure not cover that, that the challenge here is getting the provider to see the value in doing that. As we've often advocated for our listeners, John, sometimes the best tact is to say, "Doc, I know that you don't see the value there. I understand and respect that. Even though inside, you might be thinking, what a pain in the ass. Ultimately, I'm just interested in this and something that I'd like to track in my own health." Most docs are going to come around to that, but sometimes that's a bit of a hard sell. |
| John: | Yeah. |
| Mark: | We've talked about some important nutrients, methylated forms of B12, folate, B6 and pyridoxine. |
| John: | One more time, let's just talk about zinc for a minute, Mark, because I think it's right up there with magnesium and iodine as being real pivotal players in how particular enzymes form, whether that's an enzyme that helps us generate a neurotransmitter or that has more to do with another pathway. It's hard to get enough zinc from a vegetarian or a vegan diet reliably. I'm not saying that people can't do it. If you look on the USDA's list of zinc-rich foods, you're going to see that things like maybe beans and sesame seeds have zinc in them, but what that label does not tell you or what that food chart does not tell you, as you just mentioned, the levels pf phytates and things like legumes and seeds really keep zinc less bioavailable. |
|  | People will turn to a lot of different philosophies around food as to why they are or not eating animal protein. I would say that one of the strongest arguments someone could make for having whether it be fish or shellfish or grass-fed meat is that the levels of micro nutrients present may not overwhelm you, but they're going to be bioavailable. They're going to be there for you to absorb so long as that meal, you're not throwing a lot of phytates from some other food in there, something like wheat [brand 00:36:05] that could be disastrous. I think that what you said about zinc, whether someone is taking a supplement or someone is opting to eating an animal source of zinc from maybe [low 00:36:16] in the food chain. It doesn't have to be meat. I think it's really important that people experiment with that if they're open-minded to it because I've seen, in my own practice over the years, I've seen so many people respond well to a, for lack of a better label, paleo type ancestral-type diet. |
|  | They get rid of the grains. They get rid of the lectins. They have a much lower carbohydrate density at their diet, as you and I always talk about, Mark. Part of me thinks that a lot of people respond so well to that type of dietary intervention, Mark, because for the first time, maybe in their life, they're getting food which has higher levels of bioavailability for not only the zinc, but the iron and the selenium and the trace minerals. I think it's really important that people look at their diet not only as, "Okay, I want to make sure I avoid all these things." You also got to make sure that you're eating food that offers nutrients that your body can handle, that it can absorb. Sorry, I just have to put that out. |
| Mark: | Yeah, I know. That's beautiful. John. What came to mind, as you just gave that beautiful summary is fermentable-fiber, a plant-based fermentable fiber. We talked about the MACs, the microbiota-accessible carbohydrate is fermentable fibers. Like a paleo approach, really important that ... Some people think of paleo is just meat. It's really largely about plant-based foods. Again, getting back to the microbiome by way of more fermentable fiber is just essential in establishing the ecology that can influence neurotransmitters on so many levels. In the last maybe 5 or 10 minutes that we have, John, I thought I would just do a quick check-in on what I know for some will be questions about supplements that you hear about and read about. |
|  | What is omega 3s, of course? We talked about essential fats not too long ago. There had been a lot of research studies done on omega-3s, EPA, DHA in depression. For the most part, if I had to summarize, they've really not shown significant impact on mood. I know there's interest today at Harvard looking at very high doses, 6-plus grams of EPA, DHA in people with depression, bipolar disease. I have to say, John, the results in the literature have not been all that significant. I think you and I would both recommend just, particularly, if you're not a vegetarian, to try to get as many marine sources of omega-3 as you can. That's where it's at, the sardines, the salmon. |
| John: | Absolutely. |
| Mark: | The mackerel. I think understanding the role that omega-3 is an essential fats play in brain health, that the dietary sources of those foods can not be over emphasized. That's the way to go, I think, in terms of omega-3s. Would you agree with that? |
| John: | I would totally agree. I don't think there's going to be efficacy in taking 6,000 milligrams or 6 grams of EPA and DHA because physiologically, that just doesn't make sense. You wouldn't want to incorporate that large amount of polyunsaturated fats into your mitochondrial membrane friends. They're just going to make ... It's going to give more fuel basically to a fire that might already be burning. I think as you said, Mark, you want to try to eat sardines, wild salmon, halibut, mackerel. You want to try to eat real food sources of omega-3s because I think in the last few years, I think there's been some really great questions raised about large doses of fish oil, maybe causing greater levels of dysbiosis and causing more inflammation to gut. That wouldn't really get people anywhere. I think that's why we don't see the results that people would expect to see with omega-3 intervention. I totally agree with that, Mark. |
|  | I think what we mentioned in so many other podcast is, equally important, if not more important, to people who may have this imbalance of omega-3s to omega-6s is getting some of the 6s out of the diet. Don't snack on sunflower seeds and walnuts, these really omega-6 rich nuts and seeds all day. Don't eat too much chicken or poultry, which is very largely made up of omega-6 content. Try to get those foods to a minimum. Then, you can really start to produce some favorable changes in the ratios that occur within the body. |
| Mark: | Yeah, great, John. Macadamia nuts, almonds might be better choices in terms of their monounsaturated, saturated fat content. They tend to have less of the omega-6 in them. The other supplements that often come up, John, are St. John's wort. St. John's wort has been around a long time. There's actually some pretty good research, randomized placebo-controlled trials, head-to-head comparisons with many of the SSRIs, these serotonin reuptake inhibitor meds. I would say, just in summary, that St. John's wort, in most trials and meta-analyses, is effective for mild-to-moderate depression. Generally, these are not supplements you want to take if you're also taking an anti-depressant. It's really important that people be careful about reactions with medications that they're being prescribed. If somebody isn't on anything and maybe struggling with a mood disorder, St. John's wort might be something to try. Typical doses there will be 600 to 1,200 milligrams twice a day. Generally, I'll tell folks, you want to go for a minimum of 4 weeks before determining whether you're getting a response or not. |
|  | That's why I wanted to think about SAMe, S-A-M-E, S-Adenosyl methionine. It also a methylator, and a very important methylator. We were talking about the MTHFR snip or polymorphism. SAMe, when you look at the literature, if there's a role, it's often as an adjunct. It's in addition to what might be a lower dose of a prescription, anti-depressant. It does seem to have some modulating capacity there, again, for mild-to-moderate depression. Those doses tend to be 400 to 800 milligrams twice daily. SAMe, if taken alone, might have a modest effect. There are some gastrointestinal side effects. It can sometimes disrupt sleep. It's just always good to be working with a practitioner who understands this, understands potential interactions with prescription meds because that's really important. Those were 2 to jump out as more widely studied. |
|  | Then the last that just jumps out at me, John, in my mind, is very low-dose lithium. By low dose, 5 milligrams a day of lithium orotate as opposed to high, high doses of lithium, like 1,200 milligrams a day, that one would use to treat bipolar disease. Low-dose lithium, I think, can be safe and neuroprotective. For some as an adjunct to some of the things that we're talking about have, I think, very little downside and a potential upside. |
| John: | Yeah, those great points. The 2 that I'd add, Mark, will be ashwagandha and rhodiola, 2 herbs, which are also known as adaptogens and have been used in other cultures for centuries. Not necessarily just for depression. Probably, depression wasn't looked at centuries ago in terms of describing it the way we are today. Those are good herbs as well that someone could, under the guidance of a practitioner, incorporate to try to help out, in addition to some of the other changes we made. |
| Mark: | Yeah, fantastic. Two good sources for people. One is consumerlabs.com that we've talked about. The other is the Natural Standards database. These are both subscriptions. There is a modest fee that one pays to access those on an annual basis. There are perhaps 2 of the more objective ways to look at a particular botanical or supplement. They summarize the research. They go over risks and benefits. They also look at quality and sourcing. Again, they also, I think, give the consumer a look at potential interactions with other botanicals or rather pharmacological prescription. Those are really good databases that people can look at. |
|  | Lastly, John, before we bring this home is some of the anti-inflammatory herbs, botanical spices that you always talk about, turmeric, ginger, Boswellia, you mentioned, basil, just beginning to look at ways to explore, incorporating them into one's food prep or as a supplementation can also provide some nice anti-inflammatory benefit. |
| John: | Absolutely. Cooking with more turmeric or more curry, so long as someone tolerates it digestively is, I think, always has upside as does potentially using a supplement. I really like Gaia Herbs. I think they're a great company when it comes to herbs. They've got a product that I've seen people do well with its NF-kB, nuclear factor kappa beta. I've seen people respond really well to that, whether it's joint pain or it's depression. I think you got a lot of different choices when it comes to herbs. I think the databases that you, especially the Natural Standards one, I think those can really help people decipher where more maybe of this clinical evidence lies. I think that cooking with more is always the best first step because you got to eat, you don't have to take pills all the time. You got to eat, so make your meals, more anti-inflammatory, make them more fundamentally sound when it comes to supporting the microbiome and reducing inflammation. I think that that's a really important part of this, learning how to cook and learning how to cook in a more healthier fashion. |
| Mark: | Yeah, beautiful, John. That's been a bit of a whirlwind around some more natural lifestyle, nutritional supplementary approaches to managing mood. We'll get some references up on the website, John. We remind folks, as we often comment on that, there's no substitute for a movement. Motion is the lotion. Powerfully impacts mood and inflammation in the brain. Sleep and sleep hygiene, so important as one brings circadian, entrainment or synchronization, critical to restoration of mood and maintenance of healthy mind and mood. Finding and cultivating love and meaning in our lives, so important. The social connection, the full spectrum lighting, getting in the dirt, exploring those things that light the passion in us are also essential as part of this lifestyle fabrics. |
|  | We appreciate those listening. Check us out on iTunes. We'll also have this up on YouTube. We'll have show notes as well. They generally come within a day or 2 after we get our podcast up. Again, feel free to check out our website at thehealthedgepodcast.com. John, as always, great topic, great seeing you. Be well, my friend. |
| John: | You too, Mark. Thanks, everyone. |