Introduction to Mental Health and Longevity

– Welcome back to this episode of the reverse inflammaging Summit body and mind longevity. Medicine. There are many factors that affect longevity and mental health is a significant one. There's been a revolution in our understanding of mental health and the the effect of metabolic disease.

Today, we're joined by an expert in the field. Dr. Christopher Palmer is on the faculty at Harvard Medical School. He's a psychiatrist there and he has put together a revolutionary theory about how metabolic factors affect mental health and a uniting unifying theory of mental illness.

And he's also the author of a fantastic book called bro, Brain Energy that's available for a general audience that we highly recommend. That's just come out. Hi Chris, welcome to the show, – Thank you for having me. – It's so great to have you here.

Maybe before we look at some of these questions you could tell us how, how you came to be interested in this fascinating area. – You know, it's really a story of serendipity. I have been uh Doing this work for about 20 years now and started with my own personal story adopting a low carbohydrate ketogenic diet dramatically changed my mental state, um improved mood energy, concentration, sleep. Um I started noticing this and friends and family who are also adopting similar diets.

How Dr. Palmer Entered the Field

Within a couple of years, I started using dietary strategies in patients with treatment resistant depression and anxiety, even personality disorders, and sometimes seeing dramatic and powerful effects.

And But for the most part I laid low with all of that and then in 2016, the quick story is I helped one of my patients with schizoaffective disorder, which is a cross between schizophrenia bipolar disorder helped him lose weight using a ketogenic diet. And lo and behold, over a period of a few months I saw his symptoms of schizophrenia begin to melt away.

And uh he had a dramatic reduction in auditory hallucinations and his longstanding paranoid delusions. He went on to lose a tremendous amount of weight 100 and £60 now and has kept it off to this day.

But much more importantly, he was able to do things that he had not been able to do. His life was transformed. He was able to function in society in a way that he hadn't. Um and that kind of upended everything that I knew as a psychiatrist, because diet isn't supposed to play a role in serious mental illness. And so I ended up going on a deep dive scientific journey to understand what the hell happened.

And when I came out the other side, I was equally dumbfounded um that I I felt like we could finally once and for all connect the dots of mental illness.

– Wow, that's such an exciting concept. Before we dive into that, maybe let's let's step back and take um let me understand your take on longevity and mental illness. How are those two related?

How do you think of longevity? What is aging even – So you know, most people probably aren't aware that that we have a long history of research documenting people with mental illness. Mental disorders are actually aging prematurely and on average, they die early deaths.

It has long been known that people with very serious mental disorders like schizophrenia, bipolar disorder, chronic depression die very early deaths. The reduction in lifespan is anywhere from 9 to 30 years depending on what study you look at and what the sample population is. The more recent research of large population databases of

over 67 million people tell us very different and more disturbing story. And that is that people with all mental illness, every, every mental disorder, attention deficit disorder, mild depression and anxiety, personality disorders, substance use disorders. All of them Are dying early deaths. On average, on average, across the board of all mental disorders, men are losing 10 years of life and women are losing seven years of life.

And the logical question is, well, what are they dying of? Oh, these are just crazy people. They must be killing themselves. Well, yeah, people with mental illness definitely have higher suicide rates.

There's no doubt about it. That is true. And that does account for some of those statistics. But the overwhelming majority of people are not dying by suicide.

They are dying heart attacks. They also have much higher rates of obesity and diabetes and all of the other metabolic disorders of aging. But you know these statistics, we have basic science showing that for instance, people with post traumatic stress disorder.

People with depression. People with bipolar disorder have shorter telomeres on average, then normal controls of the same age. And it tells us that this is a lifelong chronic process of premature aging – Well before we, before we dive into that even further, maybe you could take a moment and just tell us the current state of the art in in treatment for mental illness.

Where are we now? And um what are the, what are the shortcomings of it or?

Mental Illness as Premature Aging

– So, right now, you know, the the reality is we do have evidence based treatments and sometimes our evidence based treatments work for people. Sometimes people go to a psychiatrist or a primary care doctor or whoever get they get a prescription for a medicine, an antidepressant or mood stabilizer or an anti psychotic.

And sometimes those treatments work and they work extraordinarily well and they save people's lives and they restore them to full health. We also have psycho therapies and they work at least some of the time for some of the people.

And I do not want to take away from that. I am not here to take away from those success stories and from evidence based treatments. But the sad reality is that for the majority of people, Well, more than 50% of the people who get treatment with any psychiatric medication or psychotherapy.

Majority of people are not getting full and complete and lasting relief from their mental illness. Their mental illness ends up being a chronic disorder that comes and goes where they need new psychotherapy or a different psychotherapist, or they need new pills or higher doses of pills or um, whatever. And if you take a step back and say, why is that, why can't we do better?

The reality is nobody can answer a fairly simple, straightforward question, which is what causes mental illness to begin with. All we know are some of the factors that play a role.

We know that genetics seems to play a role or epigenetic swee no neurotransmitters, hormones, but also psychological and social factors, trauma, stress, adversity, all of these things play a role.

How do they all fit together to result in mental illness? No one knows. And so at this point, most of the treatments that we have, we stumbled upon or they are based on um incomplete knowledge. So, we know that trauma and stress play a role, but we can talk to people about their trauma and stress for years or decades sometimes.

And that doesn't necessarily fix the problem. Talking about your trauma doesn't necessarily make it go away and doesn't reverse all of the problems that mental illness can cause.

And and so we're left with basically symptomatic treatments or left with a lot of treatments that reduce symptoms of

mental illness. They don't address the root cause of mental illness because we can't say for sure what the root cause is.

And if you think I'm being too pessimistic with this, I just want to point out that mental disorders are now the leading cause of disability on the planet.

And depression. Plain old depression is now the medical diagnosis that tops the list of all disabling illnesses above heart failure, cancer. Alzheimer's back pain, any medical disorder, Depression is now the leading cause of disability.

And it's not because those people aren't getting treatment, they are getting treatment, but the treatment isn't working, – Wow, let me let me underscore that for a moment, what you're saying is that the leading the leading illness on the planet is a mental health condition, depression And that that condition as well as essentially all other mental health conditions have less than a 50% success rate with successful management with the current approaches to them.

That's really remarkable. That's that's very depressing. What, So how did you how did you come to this new idea? What are we overlooking?

Limits of Current Psychiatric Treatment

And and what are the possibilities that we should be thinking about now with this new approach? – So, the way that I, again, this was all serendipitous. I, you know, after I started doing work with ketogenic diet for serious mental illness, I've long been doing it for, depression and anxiety, but those are, those are simpler diagnoses.

So those aren't chronic bipolar disorder or chronic schizophrenia, those are supposed to be lifelong genetic disorders. And when I saw those disorders and dozens of patients now going into full and lasting remission, sometimes off all medications, I went on a journey to understand how on earth can I understand this? And what can it tell us?

Not only about the treatment, because that that was important to me, but I was more curious about what can this tell us about this basic question? What causes mental illness? How how do they fit together?

And, you know, the first really important clue and body of literature that I had access to was the fact that the ketogenic diet is a 100 year old evidence based treatment for epilepsy. You know, most people know it as a weight loss diet and other people know it as like a treatment for Type two diabetes.

But the reality is it's also a 100 year old evidence-based treatment for epilepsy that's important to me as a psychiatrist because we use epilepsy treatments in psychiatry every day in tens of millions of people. And so we've got decades of neuroscience research telling us exactly how this diet affects the brain.

And so I went down that path first, But I was still intrigued with this bigger picture. Well, wait, the ketogenic diet is a weight loss diet and it is used for type two diabetes.

What the hell do those things have to do with mental illness. And at first glance it seems like nothing. But as soon as you do, even a cursory look how many people with mental illness end up overweight or obese.

Oh, it's actually quite a few. How many people with obesity or diabetes end up developing a mental illness? Oh, it's quite a few. You start to actually connect the dots. And at the end of the day, after doing a deep dive into all of it, I was led to these tiny little things in most of our cells called mitochondria. And it turns out that the ketogenic diet has powerful effects on mitochondria and therefore whole body metabolism and also brain metabolism.

But mitochondria can also help us understand the connections with obesity and diabetes, mitochondria can actually help us understand the connections with aging itself.

And when I put it all together, I recognized at the end of the day that the sound bite conclusion that I have come to is that mental disorders are actually metabolic disorders of the brain. – Wow. So let me let me see if I understand this correctly, then what you're saying is mental illness has many causes genetic factors, childhood trauma and psychological factors.

But underlying it all sort of the dial that turns up our sensitivity to all these things is is this metabolic mitochondrial dysfunction so that it's not that genes don't matter. It's but if I have the genes and then I have this mitochondrial dysfunction based on the diet that I'm having.

I can be much more susceptible or you can have two people with the same childhood trauma, but one person is going to be vulnerable because of their their diet choices and the other person will be less vulnerable perhaps. So it's a so it's an interplay.

But the major factor that's been overlooked for all these years has been the metabolic dietary component then, is that a fair assumption? – I would actually so diet is probably the most powerful lever we can pull to influence metabolism.

But I would actually go back from that and I would actually point out that trauma itself, trauma itself induces a stress response and that has profound effects on metabolism, including brain metabolism and it has profound effects on mitochondrial function, even if the person does not change the diet, even if the person does not change their diet, the trauma itself and the stress response start affecting hormones such as insulin and insulin resistance and cortisol and those end up having powerful effects on metabolism.

So at the end of the day, all of these things, biological, psychological and social root causes of mental illness all intersect at mitochondria or more broadly metabolism.

And I believe once people understand this science and the detailed science all the way down to the cellular level. Once you see this big picture, you can actually begin to identify what are the levers we can pull to try to improve brain metabolism and restore people's mental health at the same time that we're restoring mental health.

We're also going to be restoring metabolic health. We're gonna be slowing the aging process and producing a whole host of other benefits.

Ketogenic Diet and the Metabolic Theory

But as a psychiatrist, I'm interested in mental illness and helping people who are suffering from mental illness. And it's just like icing on the cake that I also get to help people lose weight and reverse their diabetes and slow the aging process and live longer happier healthier lives. But so it all kind of comes together.

– Yeah. Who would have thought that this meant metabolic health is going to improve like you say diabetes, even cancer, even cardiovascular disease, heart attack risk, Alzheimer's disease, other neurodegenerative conditions.

It's and as you point out longevity itself aging. So what is it about mitochondrial dysfunction or what what's going on at the cellular level? Or do we even know there? – So this you know a lot of this research has only recently been discovered in the last probably 20 years.

So prior to 20 years ago, mitochondria were largely known as the powerhouse of the cell. They were largely thought to be tiny little batteries um or a TP factories making a T. P. Or the energy currency of the cell.

And they weren't much more than that. They were just stationary little Batteries that sells needed in order to function over the last 20 years. We have completely upended that simplistic view of Mitochondria Mitochondria actually at one point we're an independent living organism and mitochondria actually formed a network within cells but also between cells um and between cells in very different parts of the human body, mitochondria form a metabolic network and although they are instrumental in producing energy and and there's no doubt about that their energy production function is critical to life.

You know if we lack oxygen, which mitochondria, so mitochondria are the only things that use oxygen in the human body um and they are using it to produce energy and if we get suffocated we die pretty quickly.

Um and that's because of the energy production thing. But mitochondria actually are doing much more than that. They are instrumental in regulating gene expression from the cell nucleus.

They are instrumental in producing hormones, neurotransmitters such as dopamine, serotonin glutamate gaba, they are instrumental in controlling inflammation. They play a direct and powerful role in turning inflammation both on and off.

And so when mitochondria are dysfunctional, you can have dysfunction in the inflammatory and immune response. Mitochondria are involved in the communication with the gut microbiome, everybody's hot on the gut microbiome and how it communicates with the brain, the brain gut connection.

Well mitochondria are playing a role in all of that. And so when you do a deep dive into the science of it all, you can actually start to connect this bigger picture of mental illness, longevity, metabolic diseases, all of it. – Yeah. In looking at the mitochondria, I'm fascinated with some of the some of the drugs now that are able to manipulate a Mp keen's or M Tour and you take a drug like rap a mission for example.

And now it it uh you know uh has it's FDA approved for cancer treatments. It's uh it it reverses cardiovascular disease when you put it on a stand and it's FDA approved for that.

And now Alzheimer's they're beginning clinical trial with Alzheimer's the evidence and reversing all these chronic diseases with this M tour factor. Do you think these will play a role in mental health through the same mechanisms?

Eventually – They very well may because again, it's all connected. You know, maybe I didn't say this before, but let me unless this is in case this is a little bit hard for people to believe um that like diet plays a role in mental illness because this is actually to most people, shocking. And to most people in the field, it's quackery.

It sounds like quackery. Diet plays a role in mental illness. No way in hell. Let me just point out. Prior to the 1940s, No one knew what caused heart attacks.

They were simply a disease of aging. As people get older, they were more likely to have heart attacks. Once somebody started, once somebody had their first heart attack, either they died or it was a rapid progression to death.

And in the 1950s we began to understand that diet might actually play a role in heart health. But it's not just diet exercise plays a role smoking cigarettes which is a mitochondrial or metabolic toxin plays a role.

But other things play a role to psychological and social factors. Things like trauma and stress and adversity also loneliness. Those all play a role in heart attacks. And so when I talk with people about diet for mental health just want to point out in the same way that the heart can be affected by all of those bio psychosocial factors.

Mitochondria, Brain Metabolism, and Disease

The brain can also be affected by those bio psychosocial factors And when the heart malfunctions because the heart is a fairly straightforward pump that's what it is. It's a pump.

There aren't that many ways it can malfunction. The brain is different when the brain malfunctions you can get a whole lot of different symptoms because depending on what part of the brain is malfunctioning.

You can get wildly different symptoms. You can get depression, mania psychosis O. C. D. All sorts of other symptoms. And I think that in a way makes understanding the metabolic theory of mental illness more complex because the brain is more complex and at the same time it makes understanding mental illness so much simpler because it's just like obesity diabetes and cardiovascular disease. They are metabolic disorders and we can use

lifestyle strategies to treat and reverse these disorders.

– Yeah that's a great point about cardiovascular disease uh and and our understanding and diet and all for that. And as you say, we have a metaphor for cardiovascular disease, sort of the pipe gets clogged, delivering oxygen to the to the heart.

We really don't have a similar metaphor for mental illness because we really don't understand how the brain works. And and another, another disease of the brain is Alzheimer's disease.

And you think that, you know, despite unlimited funds thrown at it over 40 years, we still don't really know what causes it and that even the theory of beta amyloid now is sort of falling apart that everyone was and and metabolic metabolic factors are, there's increasing evidence for for it playing a role in this disease as well.

You mentioned the ketogenic diet as um as a standard mainline treatment for seizures. So it's actually available, it's actually used is that lifelong for people?

– Not not necessarily. And that's the great news is that so that the standard recommendation right now in um the epilepsy field is that um for people with treatment resistant epilepsy. And I just want to point out the sad irony of that we have to wait until they fail lots of medications and or brain surgery, clinicians will often do brain surgery before they will try a diet, which which is pretty sad if you really think about it.

Nonetheless, after they have failed all of these standard aggressive treatments, um then we try a ketogenic diet. If the ketogenic diet works for someone's seizures. The typical recommendation is that the person stay on the diet for anywhere from about 2 to 5 years and that is determined in part by the clinician treating the patient. Um uh and any specifics to that individual's case. Um uh but usually after a period of 2 to 5 years, patient is encouraged to transition off the ketogenic diet.

The majority of people, more than 50% of people are able to successfully transition off the ketogenic diet and maintain whatever benefits they got from the diet.

So if they experience seizure freedom, they often will remain free of seizures off the diet. If they experience a reduction in seizure frequency, they will maintain that benefit off of the diet.

Now, that's not across the board, it is not a universal recommendation. There's one clear cut case that I can just at least mention to let you know that, you know, that can't give everybody a one size fits all solution and it's not always so simple. Um There is a disorder called glucose transporter one deficiency syndrome. This is a rare genetic disorder.

It means that people's brains aren't getting enough glucose and they often um at starting at a very young age will experience all sorts of problems, seizures, developmental delay, cognitive delay, mental symptoms.

Um and the actually gold standard first line treatment for this particular rare genetic disorder is in fact the ketogenic diet. It's not anti epileptic treatment, it's not brain surgery.

It is the ketogenic diet to provide an alternate fuel source to those brain cells. And it can be highly effective if somebody has that rare genetic disorder.

This diet is a lifelong treatment because the diet isn't going to correct the genetic defect. So they will continue to have the genetic defect and they will likely need to remain on the diet for life.

But for other people, the diet appears to repair mitochondria and repair metabolism or restore insulin sensitivity or however you want to think about it, decrease inflammation enough. All of those things are involved, all of those things are playing a role.

Ketogenic Diet in Epilepsy and Lifelong Use

And so when people do the ketogenic diet for a defined period of time, 2 to 5 years, the majority of people will heal and it appears to be permanently heal. – Wow well. And I just want to underscore to what you're saying, even for 3 to 5 years there, there are people out there saying that ketogenic diet is dangerous. If you stay on it, you will you will die and you know, there's all sorts of misinformation circulating.

But it seems like that there are people for medical reasons who stay on a ketogenic diet their whole lifetime without without negative effects necessarily from the diet per se. From that.

Uh I wanted to also go back to what you said about the the surgical treatment for epilepsy versus a diet. And I think everyone would agree that diet is a small thing too to to do to save an operation. But you said, well, the other way is, you know, you could take the pill, you can have the diet. Most people, hey, I'll just take the pill.

It's less to worry about the food. Maybe you could just take a moment and and explain why a diet. What are the side effects with psychiatric medications that people face? It's not a matter of just taking the pill and getting better. There are downsides to these medications as well for people correct?

– There are, and this is one of the paradoxes of the metabolic theory of mental illness is that we have long known that many psychiatric medications come with very sometimes extreme metabolic side effect. Many psychiatric medications are known to cause massive amounts of weight gain. They are known to cause insulin resistance and type two diabetes. They are known to cause or contribute to premature cardiovascular disease and in the elderly.

They are known to result in premature mortality. Um, those are not conspiracy theories from Chris Palmer. Those are all available on the package inserts issued by the Food and Drug Administration.

If you doubt me, you can go read the package inserts on all of the antipsychotic, many of the mood stabilizers. Even some of the antidepressant medications and you will read those side effects. So um so this is quite serious.

It is well established essentially as medical fact, if you believe in medical research and if you believe that the FDA when they slap a black box warning like that on a label has a good enough reason to slap that label on. Um And this was one of the obstacles that I faced in developing the metabolic theory of mental illnesses.

Well, wait, that doesn't make sense then, because these meds are causing metabolic car. So my theory has to be wrong. How can it be right? If if these meds reduce symptoms of mental illness, how can my theory be correct?

And the end of the day, I get into some of the kind of scientific details of this at the end of the day. The nutshell um explanation is that when a cell is metabolically compromised, it can have one of two immediate reactions.

It can become underactive, which means that it just doesn't work as well. So if it's a muscle cell, it's just not gonna work as hard or contract us vigorously.

Um If it's a brain cell, it may just not work. It may not work as well or robustly. But the paradox is that metabolic dysfunction can actually result in cells becoming hyper excitable. They can actually become overactive at the same time That you know, are around within the same day of also being under acted.

So it can be underactive 90% of the time and overactive 10% of the time. So, um the on off switch is dis regulated in a metabolically compromised cell and many of the symptoms of mental illness are due to hyper excitability of neurons.

So they are creating experiences that should not be occurring. So in someone with anxiety or panic disorder, that person may have a panic attack for no reason at all, that person may become anxious for no reason at all, or they may become excessively anxious, like once anxiety gets started in them, it doesn't turn off. Um they something triggers the anxiety system to start and then it just won't shut off. They are hyper anxious and those all represent metabolically compromised cells in one easy way to treat those symptoms would be to stop metabolism in those cells or at least severely restrict metabolism in those cells. And that means severely restrict mitochondrial function in those cells. And that can prevent those cells from functioning at all.

And that can result in kind of reducing the symptoms of hyper excitability. The unfortunate news is that that can leave those cells even weaker and more vulnerable.

Over the long run, you are essentially putting a straitjacket on those cells and those cells do become weaker and more vulnerable.

Psychiatric Medication Side Effects and Metabolic Cost

There are signs of brain atrophy in people with chronic mental disorders that might be contributing to that process. Um that brain tissue might actually be shrinking and dying.

Um but at a minimum, it at least raises an alarm and a red flag about the possibility that our very treatments that can reduce symptoms in the short run may actually end up causing mental symptoms in the long run.

So we know that they're causing insulin resistance. We know that insulin resistance appears to play a role in causing mental symptoms or at least contributing to mental symptoms. So you can look at it in a variety of ways.

But but it is very concerning. – Well, given that in the in the healthcare, those of us in the health care profession uh realize that for most diseases, it's not really an on off switch, but it's sort of a gradient of uh a gradient of effects that occur over time.

And for for insurance purposes, we need to establish thresholds, you know, for like diabetes, your glucose has to be above a certain point and below that you don't have diabetes and above that you do. And it's but really things have been acquiring for a while and I'm wondering about the value of this approach or this.

Thinking about metabolic disorders in sort of the normal healthy people who, you know, don't have schizoaffective disorder or, you know, major depression. But throughout our daily lives, our, you know, our we might have depression or anxiety or arguments with our spouse or our Children and just navigating the the seas of our daily lives that we navigate. Do you think there's any role of this model for metabolic disorders affecting that? And would a ketogenic diet help with the marital relations or or or people getting along with their boss or being mildly depressed in the day? How, how far does this go?

– I think it absolutely extends to these milder cases as well. So, you know, what is clear is that as the rates of obesity and diabetes have increased, those are metabolic disorders. So is the rates of metabolic disorders or metabolic dysfunction increase in the population.

So, to do the rates of mental disorders. Um, and it's it's across the board, it's a wide variety of mental disorders, but this includes what some people might even consider subclinical categories. So people talk about burnout.

I'm just burned out. I'm exhausted all the time. My, my, my job sucks. I can't keep up, I'm tired. Um It can apply to something like brain fog. I just, I'm not as sharp as I used to be. I'm not as sharp as I want to be.

We see those types of symptoms much more commonly in people who have established metabolic dysfunction. So in people who already have Type two diabetes, for instance, that is clear metabolic dysfunction. Those people have much higher rates of depression and anxiety, the whole clinical thing, but they also have higher rates of brain fog, cognitive impairment um, for sleep and other symptoms, could that impact the way they interact with a spouse?

Yeah, absolutely. Could that impact the way they interact with their boss. Absolutely. Is that the only factor? Of course not. I mean, let's get serious. Of course not.

Um, couples will have disagreements, couples grow apart from each other. Bosses can be jerks. Um, and you might decide you want a new job. All of those things are still true. So I'm not here to say diet affects every human relationship and that's the only factor that plays a role.

That that's not what I'm saying. But if you have signs of metabolic dysfunction. So these are things that you can

measure if you have signs of insulin resistance, if you have signs of glucose fist regulation. If you have signs of higher levels of inflammation. And I would add to the list if you have signs of brain fog of mild depression or anxiety burnout, I would argue all of those are signs of metabolic dysfunction somewhere in your brain or body.

And if you have those, you can use lifestyle strategies to try to address them. And lifestyle strategies include dietary strategies such as reducing junk food, reducing sugar. Maybe a low carb diet may be a ketogenic diet.

I'm not here to prescribe a one size fits all diet for everybody. I think lots of different people can do well with different types of diet. Some people do quite well with a paleo diet, just do well with, you know, a zone diet whatever.

But a lot of these diets are in fact eliminating processed foods with lots of sugar, lots of junk, lots of chemicals.

Lifestyle Strategies for Everyday Mental Health

So um you think removing or reducing those is important, but lifestyle also includes other things exercise, getting good sleep, reducing your stress levels, all of those things.

And there's no doubt in my mind, all of those things can play a powerful role in treatment. And over the long run, I believe, based on lots of people that I've talked to who have been stable for decades now using those types of strategies for their mood symptoms for their mental mental symptoms.

I am convinced that lifestyle strategies are a much, much more effective solution than some of our current standard treatments like taking those out, – What are the biggest areas of pushback you've gotten on this, on this theory and in your book, anything credible that, – You know, it's really interesting at at this point.

I just I'll just point out that for those not familiar with the book that I've, I think it's like 16 people have publicly endorsed the book. Some of those people are actually leading psychiatrists and neuroscientists in the world.

And then lots of other physicians and uh celebrity physicians and other New York Times, bestselling authors and I got a whole range of people. But I just want to point out some of those people are leading psychiatrists and neuroscientists, one of them is in the top 1% of all sided psychiatrists in the world.

So this is not complete heresy and quackery whether it turns out to be absolutely true, like every part of the theory turns out to be true. I think time will tell. I welcome criticism.

I welcome refinement. I welcome revision to the theory. There are parts of it that I got wrong. The end of the day. We need to get to the truth. We need to get to the truth for the millions of people who are tormented by their mental illness whose lives are being held back. So, but the answer your question like, what kind of pushback have I gotten? The shocking thing, at least so far, because I haven't actually gotten any legitimate pushback from mainstream psychiatry neuroscience for the mental health field.

Um gotten a little bit of pushback from people who haven't read the book, who hear the sound by mental disorders or metabolic disorders. Chris Palmer your There's no way now that's true they don't even understand the theory.

So they're pushing back against something they haven't even read and don't understand. But for the most part, by and large, I have not gotten significant pushback. I have had one or two researchers tell me, I don't know that we have enough evidence to confirm everything that you have outlined and what they've told me off record is I can't really say that anything you've written is wrong, I'm just not 100% sold that everything you've written is correct.

And as a researcher, I would want more research to confirm or refute different parts of your theory. And again, I welcome that. I call for that at the end of the book. I'm not about, you know, just throwing out evidence-based medicine.

I'm all for evidence-based medicine. I'm all for research. But this theory connects a lot of dots and I don't think

people can really ignore it. – Well, we're almost out of time.

I have to ask one more question though. Five years from now. We get together to have this conversation. What will we be talking about or where do you see this field in five years? Where do you hope it will be in five years?

How will it be different?

Future of Metabolic Psychiatry

– I am hopeful that five years from now we will be battling with insurance companies to start covering these treatments because we will have enough of an evidence base to be making these legitimate arguments.

We will be completely redesigning medical and mental health education around these new concepts like changing our educational system, changing our treatment protocols is going to take years if not decades, but five years from now. If everything goes according to plan, we might be in a position where we might be starting to have those conversations with medical schools. You need to revamp your mental health curriculum, your psychiatry curriculum with psychiatry residency training programs with psychology and social work training programs. You all need to learn more about metabolic health, diet, exercise, other lifestyle strategies.

Those are the ways you are really going to help your patients and your clients. – Yes, and hopefully sooner than than five years. Well, thank you so much Chris first of all, how can people reach you on social media and your website?

Maybe you could just let people know that. – So two websites, you can find me a BrainEnergy.com, which I am hoping is going to turn into a grassroots movement website for people who want to transform the mental health field based on the metabolic theory of mental illness. And get these treatments available to the millions of people who need them. BrainEnergy.com.

If you want to learn more about my work and specifically more about the work, my work with the ketogenic diet and serious mental illness. You can find all of that information at ChrisPalmerMD.com.

– Well, Chris, thank you so much for spending an hour with us today on this episode. And and also thank you so much for the great work you're doing and your great ideas that that have the potential to really transform the world and help so many people in so many ways.

– Thank you Dr. Lufkin for having me