



**The Good Clean Nutrition Podcast  
Episode 4 Transcription**

**The Science of Sugar Addiction: A Look at the Latest Research with Dr. Nicole Avena**

Mary Purdy:

Welcome to The Good Clean Nutrition Podcast, where healthcare professionals and health minded consumers are provided with practical and helpful nutrition information on current and trending topics from subject matter experts. My name is Mary Purdy and I'm an integrative eco-dietitian nutritionist based in Seattle, Washington.

Our topic today is the science of sugar addiction, a look at the latest research, which should be a very interesting conversation since so many individuals struggle with their relationship with sugar. I'm excited to introduce our special guest, and a true pioneer in the field of food addiction, Dr. Nicole Avena. Dr. Avena is an acclaimed research neuroscientist, published author, sought after speaker and nutrition and diet expert whose seminal research jump-started the exploration into food addiction. She earned her PhD in neuroscience and psychology from Princeton University, and postdoctoral fellowship in molecular biology at the Rockefeller University. She has authored over 90 scholarly journal articles and several books and book chapters on topics related to nutrition, addiction, eating disorders, and obesity. She's also an expert in diet during pregnancy, baby, toddler and child nutrition. Welcome Dr. Avena, it's great to meet you.

Dr. Nicole Avena:

Oh, thanks. I'm so happy to be here.

Mary Purdy:

And this is such a fascinating and really hot topic. I'm curious to know what actually drove your interest to this niche on food addiction and specifically on sugar addiction.

Dr. Nicole Avena:

Well, it's kind of a funny story. It was really a serendipitous thing. I was just starting graduate school at Princeton University, and I was talking with my advisor about what I might do for my dissertation, for my PhD project. And we had been talking about how there had been so much interest in understanding obesity and why people found that it was so difficult to regulate their body weight and to eat healthy diet. And one of the things that we started tossing around and talking about was this idea that, well, maybe it's not that people don't have willpower or that you know it's really the person's fault, but maybe something about the food. Maybe there's something about the food in our environment that is causing people to be overweight, that's making them dependent on it or addicted to it.

And so that's really how I got interested in this idea. It started off as a PhD project and it's evolved into a career because I'm still working on my dissertation to some degree, even though I already got my PhD. But I'm still asking the same questions and really trying to better understand this topic area because it's so interesting.

Mary Purdy:



It's such an ongoing process too. And I love that you said that it's not about willpower because I have said that to patients so many times. It's not about some kind of a flaw in character, but looking at much, much more deep-rooted issues, whether it's chemistry or emotions or whatever the case may be, which we'll talk about. And before we actually dive into sugar addiction, what is your definition of food addiction?

Dr. Nicole Avena:

We've defined it based off of the criteria that the American Psychiatric Association has put out to define other types of addictions. And so there's criteria that are being used to diagnose someone as having an addiction to drugs or addiction to alcohol. And so through our research, we've essentially taken those same criteria, but applied them to food. And so there's things like you would imagine when you're thinking about someone who might be struggling with an addiction to drugs or alcohol. So bingeing, withdrawal signs, craving, consuming more than intended, trying to quit but not being able to, using the substance despite the fact that it can have physical or psychological harms to you. There's a variety of different criteria that have been applied and we've essentially been using them to help us to better understand how food can fit into this addiction space.

Mary Purdy:

So it really, it's a struggle, it's a reliance, more than just a choice to have a candy bar or a choice to have a certain kind of food.

Dr. Nicole Avena:

Oh, absolutely. And what the research has really shown is that this is a multifaceted disorder. This is something that involves a variety of different areas of the brain, a variety of different psychological aspects that can contribute to people's relationships with food. And I think we're seeing now more than ever, that there's a lot that goes into deciding what you eat. It's not just about being hungry. It's about how anxious are you, how stressed are you? How do you have a relationship with food and what is your history with eating different types of palatable foods and junk foods? All of these things play a role and we're learning more and more about how our brains can be changed by overeating these highly palatable junk foods. And that can contribute to this cycle of addiction that we often see emerging.

Mary Purdy:

And it makes it seem so much more realistic and understandable for the person who's struggling with that, that they understand that there's something actually going on that maybe is beyond their control. And it gives them a better sense of perhaps empowerment as to what action to take around that. And I want to make sure that we are differentiating when we think of the word sugar, right? Because a lot of people think sugar and they think of just this lump thing. But there's different types of sugar. There's refined and processed sugar, there's naturally occurring sugars in fruits, there's sugar in grains, right? So what type of sugar are you referring to when you are actually talking about this sugar addiction, quote, unquote?

Dr. Nicole Avena:

Great, great question and something that's so important to clarify because I think you're right, that people sort of lump all the sugars together and kind of sometimes put them in this category that they're all bad. And that is not the case at all. When we talk about sugar addiction, we're talking about these



refined, highly processed sugars. And so things like high fructose corn syrup, for example. And what we're finding is that sugar that occurs naturally, or even refined sugar that's consumed in moderation does not have the same effect as these types of foods that we're finding to be very common in our society lately, where it's excess amounts of sugar that's added to them. What we're seeing from the research is that things like fruits that contain sugar but in acceptable amounts also contain fiber that can mitigate the effects that the sugar can have on our brain and our body. And they also contain other nutrients, and they can be beneficial to our health.

But we're really focusing on these highly processed foods that contain lots of added sugars, and in many cases, multiple forms of added sugar. It's not necessarily just one type of sugar that we're finding is being added to these foods that people often struggle controlling their intake of.

Mary Purdy:

And it's really important to look at that label too, on food ingredients. When you see sugar, it may not just be about the refined sugar, it may be the natural sugar. But that important word is the added sugar when you're looking at those labels as well.

Dr. Nicole Avena:

Absolutely. And I think we have a little bit more clarity now that we have new nutrition facts labels, where people are having to disclose what amount of added sugar is in the product. It used to be the case that you had to do your detective work and figure out how much sugar was in it, just based off of the sugar that was in it, whether it's naturally occurring or added sugar. And so I think having that added sugar information can really be helpful to people because if you are trying to be mindful of your sugar intake, you now have some more clear data to go from off of the product labels.

Mary Purdy:

And we're learning more than ever now the impact of refined sugar intake on our health and also the impact actually of sugar production on the environment. And with the 2025 dietary guidelines, which are now recommending a limit on added sugar, I think people are becoming more aware of their sugar intake. And I would love to take a step back here and let's actually talk about some of these negative effects of this excessive sugar.

Dr. Nicole Avena:

Yeah. So there's a lot. It's something that we're seeing now that there's been so much more research. The research has really just blossomed in this area. And lots of scientists are really trying to better understand the effects that too much sugar can have on our health and wellbeing.

First and foremost, the one that we often hear a lot about is the fact that excess consumption of added sugar can increase body weight, it can lead to obesity, and that can contribute to a variety of different health conditions, such as type two diabetes, such as increased risk for heart disease, increased risk for certain types of cancers. We're also learning more about the role that sugar plays in our immune system functioning. Now this is something that, especially over the past year or two, has become something that many, many people are concerned about, making sure that their immune systems are working as well as they possibly can. And research is suggesting that excess sugar intake can actually be detrimental



to your immune system health. And so trying to reduce sugar is one way in which you can help to bolster your immune system health and immune system functioning.

And so it's really become the case that we're finding from the studies that sugar can have a negative impact on our health, not only in the immediacy, in the sense that it can dampen our immune system, but it can also have long-term impacts on our health, putting us at risk for many of these lifestyle related conditions that could be avoided if we were to change the way in which we approach our nutrition and exercise.

Mary Purdy:

So increased risk for cardiovascular disease, issues with immune function. I would relate that as well to the microbiome, which we know relies on high fiber foods and can see an overgrowth of that bad bacteria with excess amounts of sugar, which also relates to our immune function. So those are really, really important pieces. And I think it might be important to clarify that word excess, right Dr. Avena? When we say, "What is excess of sugar," someone's going to say, "What does that mean? How much sugar am I allowed to have?" What are your thoughts on that?

Dr. Nicole Avena:

It's such a great question and I don't have the best answer for it, to be honest, because it's like the term moderation, like everything in moderation. Well, what does moderation mean? Moderation to me might be different than moderation is to you. But when people ask me for a number to go off of, in terms of how much sugar is too much sugar, I tell them that even if they think they're not consuming a lot of added sugar, they're probably consuming more than they realize. And so it's always a good idea to try to reduce where you can. What we are seeing now in terms of the guidelines is that around eight to 10 teaspoons a day of added sugar is what seems to be recommended, depending on the organization that you're looking at.

But I think that that could actually be reduced even less. I think that the goal should really be to try to reduce the amount of sugar in your diet from added sugars in all the places that you can, because it's in so many of the foods that we consume that you might not even realize you're consuming it. I have a presentation that I often give where I'll go through some of the foods that people commonly consume and show how much added sugar is in them. And people are really shocked when they realize that you can be over the recommended amount of added sugar for the day before you even leave the breakfast table. If you just look at coffee creamer and maybe a yogurt and maybe some orange juice, then you've already probably past your limit.

Mary Purdy:

Yeah. It's amazing how easy it adds up. So even a can of Coke is already at 30 grams of sugar or 35 grams of sugar, depending on that size. So you can add up quite easily. And you have studied the science of sugar on the brain. And I would love for you to outline what actually happens in the brain when someone consumes a large amount of that refined, processed sugar.

Dr. Nicole Avena:

Well, it's really fascinating. So there's so many things happening at one time. What we've seen is that when someone tastes sugar or just simply puts it in their mouth and has it on their tongue, that already



starts this cascade of events that sends signals to different parts of our brain. And it also sends signals to our gut telling us that it's rewarding and pleasurable. And so what happens in the brain is that there are signals that are sent up the brainstem through the primitive brain regions, to the reward areas of the brain. And these reward or pleasure centers of the brain will then release neurochemicals, like dopamine and the opioids.

And these essentially send a signal that, "This tastes delicious. This is really good. Let's do it again. Let's have more, let's have more." And over time, what ends up happening is that people develop tolerance, just like with other drugs of abuse, like alcohol. People develop tolerance to alcohol where maybe the first time they consumed alcohol, they felt a little euphoria from having just one alcoholic beverage. But the more you consume, the more you need to feel good again. And the same thing is happening with sugar. So that's why people might not feel that great if they just have one cookie. They might feel like they need to have three or four or five if they have this diet that's rich and added sugars because our brain develops tolerance to the effect that the sugar has on the pleasure system.

And so that's where people can get into trouble and that's where we can see that excessive consumption can occur. It's really about this addiction cycle and about trying to understand where we can limit ourselves so that you can still enjoy the things you want to consume, but you don't fall into this zone where you're actually consuming things just to get to this bliss point of feeling pleasure from them.

Mary Purdy:

That is fascinating. For years, I have counseled hundreds and thousands of patients who struggle with sugar cravings. And as you mentioned upfront, it's not always about willpower. There are other factors at play, emotions, stress, fatigue, a lack of balance in meals, dehydration, to name just a few. What else do you see as primary drivers of those sugar cravings that people often complain about?

Dr. Nicole Avena:

I think a lot of it often comes from displaced emotions, meaning that people will often be upset about something or anxious about something and they turn to food as a way to self-soothe or to self-medicate. It's really a socially acceptable way to make yourself feel better. And I think that that's where sugar plays a role in the lives of many people. If you think about it, if you break up with your boyfriend or girlfriend and you're upset and depressed about it, you don't say, "Oh, let me go have a salad." You say, "Oh, let me have a pint of ice cream to make myself feel better."

And I think that there is this relationship between the inability to appropriately cope with different types of emotions and stressors that we face on a day-to-day basis and the relationship that many people have with foods that have lots of added sugars in them. And so I find that that's something that many people, once they become aware of it, can correct it, when they realize, Oh, I'm craving sugars. Is it linked to something that's happening in my life right now or is it linked to a stressor that I'm experiencing?" That can really change the way in which people approach whether or not they're going to give into that craving because they realize that it's not actually a craving it's really more of just a maladaptive way of coping with something.

Mary Purdy:



Absolutely. And sometimes that can even go all the way back into childhood, right? We think of the comfort foods that we were given as kids, or when we cried, our parents maybe bought us ice cream or gave us a lollipop to make us feel better. So there's so much entrenched in our childhood. And to go a little deeper on that, since we're recognizing adverse childhood experiences and trauma, what about those kinds of childhood traumas that might actually lead to other dependencies in life? Has there also been research to show that sugar addiction can be one of those dependencies that may occur?

Dr. Nicole Avena:

Absolutely. I think that what we're finding from the research is that trauma in early life, even trauma in later life, can put people at risk for developing maladaptive behaviors, one of which is addiction. And I don't think that addiction is something that we can any longer really just compartmentalize into drugs and alcohol. I think we're realizing that addiction can take many forms, one of which can be to food. Just like we have addiction to gambling, just like there's sex addiction, there are many types of addictions that can manifest. It's not something that is reserved for just drugs and alcohol anymore. And I think that sugar plays a role in this process too. And for some people, they end up using sugar and food as a way to cope with these childhood traumas or experiences that they've had.

And in many ways, it's another way to self-medicate. And I think that it's important for people who have experienced traumas and they start to realize that, "Wow, maybe I am using food to cope," that there are alternatives to have more appropriate types of coping mechanisms that you can be taught and that these are things that you can rectify. So it's not something that doesn't have an answer. And I think that that can be hopeful and promising for people who maybe find themselves in that position.

Mary Purdy:

And so from what you are saying, I'm gathering that there's a difference right between craving something sweet and really having a sugar addiction. And it sounds like the symptoms that are indicating a true addiction is the sense of reliance and it's a coping strategy. It's the way that people are able to get through a difficult situation. Anything else that would be a sign or symptom that helps us to really identify that this is a true sugar addiction and not just, "Hey, I want something sweet after dinner"?

Dr. Nicole Avena:

Yeah. Everybody has cravings for sugar or feels like having something sweet once in a while. That's a natural part of the appetitive process. And I think it can be difficult for some people to sort of decide well, where do we draw the line between just liking something sweet and wanting to have something sweet once in a while to having it be an addiction. And I think that for me, the hallmark criteria is whether or not it's life disrupting. Now, this can be difficult when it comes to food because food's socially acceptable to consume everywhere you go and there's often ease of access to get access to these highly processed foods that we don't typically see with things like drugs and alcohol.

But I think that if somebody is wondering whether or not they're coping with a food addiction versus just having maybe a real big sweet tooth, the hallmark sign for me is, is it causing you some distress in your life? If you're thinking that you have an addiction, then there's a chance that you do. And so I think that that should really be the point at which people start to think about talking to a dietitian or talking to their doctor, talking to some medical professional who can help to guide them and advise them because



much like other conditions, if left untreated for a long enough time, it can be even more difficult to correct. And it can lead to a lot of the other health conditions that we talked about earlier as well.

Mary Purdy:

I'm so glad you clarified that for people, because I think it's important to understand that craving sugar or craving something sweet can be natural. And I had a patient who actually kept on saying to me, "Oh, I have this sugar addiction. I'm addicted to sugar. I can't stop. I can't stop." And when we started to look through her dietary recall, looking what she was eating at during the day, we discovered that she had very, very little protein actually in all of her meals. And as soon as we got more protein in there and actually more fiber as well, just to fill her up, to satiate her, that completely eradicated or at least very much diminished her craving for sugar later in the day. And so that was a real example of, hey, this is not an addiction. This is just about finding a way to balance out some of your macronutrient distribution. And that was quite insightful for her to understand.

Dr. Nicole Avena:

Yeah, that's interesting. And I've experienced similar things in my practice too, where people often have a nutritional imbalance that they're just not aware of. And I think sometimes this comes with our diet culture where we're really focused on calories and making sure that we're not eating too much fat or reducing our carbohydrates, whatever the diet is that someone's following. And again, I often advise people to shy away from those types of diets because they end up causing you to then be deficient in other things that can lead to these cravings that can make you feel like you're addicted to sugar because you're craving it. The reason why people often crave sugar in many cases, if they're dieting, is because their body is craving carbohydrates. And so that's ultimately one way in which we can make sure we get carbohydrates is to crave them.

Mary Purdy:

Absolutely. I often say to people that if you haven't eaten a meal that's actually satiated you, your body's going to go for the first thing that it sees that will give it energy with the least amount of effort. And that's almost always some kind of refined sugar or processed carbohydrate. This happens a lot in childhood, right? This can begin early. And I know that you've got a background in childhood nutrition. So when it comes to introducing sweet foods at an early age, what's your advice? What's a story that you might have around how parents or childcare givers can approach this with young kids?

Dr. Nicole Avena:

Yeah. This is something that I've been really interested in over the past several years. And I actually wrote a book on this topic called, *What to Feed Your Baby and Toddler*. That was, to me, born out of necessity because when I was pregnant with my daughter and starting to think about, okay, it's time to start thinking about baby food and planning out how to introduce solids to her, I found it really interesting that there wasn't a lot of updated, useful information for new parents out there in terms of what you should feed your baby.

And we now know that there's so much research that suggests that limiting sugars early in life is a very important thing. And many of our children these days are basically being bombarded with sugar from an early point in life. And this starts off with baby food. A lot of the times, if you go into a grocery store nowadays and look at the baby food aisle, you'll see that most of the baby food is sweetened with some





sort of fruit puree. So babies aren't really experiencing the tastes of just plain peas or the taste of just plain butternut squash. It's often sweetened with a fruit. And so we're starting their little pallets off expecting things to be sweet, even from six months of age.

And I think that that's something that we need to help to educate parents about because we know that it's important to get fruits and vegetables and other protein forms into our baby's diets, but the way in which we introduce them can also be very important. We want to do it in a way that's not going to cause us to basically have our kids hooked on the taste of sweet from a very early age.

Mary Purdy:

I think we may have just busted some myths there Dr. Avena, because I think the impression is that kids prefer something a little sweet, so they don't make that shriveled up face when they taste something that's bitter. So that's fascinating for sharing that. I'm sure people will find that valuable. So you've talked about babies and kids and how to approach sugar cravings and issues around sugar with them. But let's talk about adults a little bit as well. What are some of your best approaches to effectively address sugar addiction, for short term or for long-term?

Dr. Nicole Avena:

Well I think for me, the biggest thing we can do is to prevent it from happening from the beginning. And so I think that education, working with school districts to really educate young children about the dangers of eating too much sugar and why they need to take it seriously is something that is very important and working with parents to better understand that too. I think that if we can prevent this from happening in an early age, then that's going to be all the better. But when we talk about adults in terms of how to manage a sugar addiction, I think one of the first things I recommend is that people not try to quit sugar cold turkey because that really sets people up for failure. And so you're better off making small incremental steps and looking at those as wins because that's what they are.

And so I advise people, if let's just say you are a big soda drinker, well, you know what? Let's think about what we can swap out. So instead of having soda, you're having something that doesn't have added sugar in it. And really just, one by one, going through your diet and picking out the foods that are high in added sugar and replacing them with something that you enjoy equally, but just doesn't have as much added sugar in it or any at all if we can. And I really think that strategy works, and we know from psychology that reducing harm has its benefits.

And if somebody can simply just swap out one thing in their diet in a day, that's still reducing the harm. And so I think we need to have an approach that's going to be sustainable and realistic and not have this all or nothing approach because I think that that contributes to people failing and to people just sort of saying, "Forget it. This is too hard. I can't cut out all the sugar." Well, you don't have to cut out all the sugar. You can just try to reduce it and make substitutions where appropriate. And that's still a step toward improving your health.

Mary Purdy:

I couldn't agree more. I think trying to go full throttle on something like that is virtually impossible. And baby steps is what I'm hearing from you as well as celebrating those successes. If you're able to cut back from three Mountain Dews to two to one Mountain Dew, that's already a great shift. What about





different types of sugar? We've talked about refined sugar, but what about the natural sweeteners, honey, maple syrup, even molasses, non-nutritive sweeteners like Stevia? What are your thoughts on those as options?

Dr. Nicole Avena:

I think that there's a place for all of these different products in our environment. It's just a matter of an individual's personal nutrition goals and how they can possibly use these types of sweeteners in their diet to help them or whether or not those types of sweeteners are going to harm them. Now I've worked with people in the past who find that if they switched to something like Monk fruit or use Stevia, that it can help them to lessen the amount of added sweeteners that they have in their diet and to help them to really serve as almost like a crutch to get off of all the added sugars that they normally consume.

But then other people find that they don't necessarily serve as good of a purpose because they still have that sweet craving and are still craving sweetness, even when they consume these other types of sweeteners. My advice and my gut instinct on this is that I think we should really just try to focus on reducing the sweetness in our diet, because I think that if we want to look at this from the neuroscience standpoint, we know that these other types of alternative sweeteners, they still release dopamine, they still have the same effect on the reward system in the brain, they still elicit pleasure in our reward system.

And so if you're truly struggling with an addiction to sugar, by swapping in one of these other types of sweeteners, you're not going to really correct the neuroscience problem. You're not going to correct what's happening in your brain. The better bet is to try to just reduce the amount of sweetness we have in our diet. And that's going to help to change the brain in a way that's going to reduce the cravings and to help people to get on a path where they're not struggling in this addiction cycle any longer.

Mary Purdy:

I do feel the same way about vegetables that are considered sweet, like that butternut squash or the sweet potato or beets, things like that, that still have an element of sweetness to them.

Dr. Nicole Avena:

I actually find that vegetables that are sweet, to me, and same with fruit, like whole fruits. If people are having a sweet craving, I would really say, "Hey, instead of going for something that has Stevia in it, why don't you have an apple or why don't you have some grapes?" Because again, that's a naturally occurring sugar that is in balance with other things that we need in order to have a healthy diet. So, it's going to have fiber, it's going to have other nutrients that are going to mitigate the effects that the fructose and the glucose can have on our body and our brain. And so again I think that you'll never hear me tell somebody you can't eat a fruit or a vegetable. To me, those are really the sweetness of our environment that we're really meant to consume.

And I think that for many people who have been overeating processed sugars and processed foods for many, many years, that start to slowly remove them from their diet, they look at sweet potatoes as a blessing. And to them, it's like dessert almost because they don't realize how sweet they were until you



actually don't have all this artificial sugar and artificial sweeteners in your diet. You can really taste the sweetness in vegetables and many of the fruits that are out there.

Mary Purdy:

Absolutely. You're making me want to go and bake up a sweet potato right now. Have you seen sugar cravings or addiction differ at all by gender, age or race?

Dr. Nicole Avena:

We have done some studies about this and looked at it and there's been some work that's done in the literature. And it doesn't seem to show a difference. This seems to be something that we're seeing in different genders, different races. And again, I think women seem to be more willing to admit that they have a sugar addiction and more willing to talk about it. But we see that it seems to be equally represented across sexes.

One of the things that we have noted is that when we look at the demographic breakdown of people who struggle with food addiction, that an interesting thing that comes up is that people who have a comorbid condition like binge eating disorder or obesity, tend to have higher rates of food addiction. But we don't really see any differences in terms of some of the other demographics that we've looked at.

Mary Purdy:

And what role does artificial sweeteners play in all of this? What are your opinions on those, like aspartame, saccharin, things like that?

Dr. Nicole Avena:

I think that these fall into the same spot, if not, maybe a little bit behind the other alternative sweeteners that we were just talking about a few minutes ago. I think that for many people, they're attracted to this idea of artificial sweeteners because they're kind of billed as being calorie-free and you can still have your sweetness without the added calories, and it seems like a dream come true. But in reality, I think that many people find that using them, again, doesn't break that addiction cycle. And we've seen this in the research that those artificial sweeteners can still release dopamine.

It's really the sweet taste that's associated with this sugar addiction and the rewarding effect that we see happening in the brain in terms of the neurochemicals. And so much like what I would recommend with a lot of the alternative sweeteners that are out there, I really think limiting your access to artificial sweeteners can help to mitigate these effects of sugar addiction. If you really want to get off of sugar and really want to recover from the effects that sugar can have on your body and your brain, then I think cutting out the artificial sweeteners or certainly reducing them is important to think about as well.

Mary Purdy:

Great. And you mentioned early on in the show that this is an ongoing research project for you almost, like you're still writing your dissertation. It would be great to know where is the latest research on sugar addiction headed?

Dr. Nicole Avena:



Well for us, I think that I got involved with this 15 years ago, or almost more than that now. And it started off as establishing whether or not this was a phenomena, is sugar addiction real, is this something we can measure? And we had to develop a model of that because there wasn't any research on it when we started doing it. There had been anecdotal reports of people struggling with sugar, saying that they felt like they were addicted to carbohydrates, but our lab was really the first to show that sugar can produce the criteria that are associated with addiction as we know it.

And so I think that now that we're kind of at the point in the research where I'm interested mostly in the genesis of this. Where does it begin? And so where can we have this intervention point to help prevent it from happening to begin with? And so we've been doing a lot of work looking at prenatal access to sugar rich foods, what happens during pregnancy and what kind of foods that women are exposed to or eating during pregnancy, how can that have a role on the fetus and the growing baby that could potentially lead to sugar addiction later in life? And what we're finding from the research studies is that excess sugar during pregnancy can have a detrimental effect, not only on the fact that babies are then born wanting more sugar craving sugar, but we see that there's changes in DNA, changes in the dopamine system, even before the babies are born and they've even tasted sugar themselves, just through what they're receiving via the prenatal exposure to these types of foods.

And so I think this is an important topic. I have two kids of my own. I've been pregnant twice and not once has the doctor said to me, "You might want to reduce your sugar intake." They are concerned about not gaining too much weight and maybe making sure you're eating a healthy diet, but there really isn't a lot of information out there about sugar and what it can do during pregnancy. And I think it's something that we really need to focus on, understanding more about because it's being linked to a lot of different health outcomes later on, not just body weight.

Mary Purdy:

Well, you are a true pioneer, Dr. Avena. And I think a lot of the folks listening today are going to get great ideas around how to manage some of these sugar cravings they're seeing in their patients or in themselves. So thank you so much for your time and really thoughtful responses. It's been such a pleasure speaking with you.

Dr. Nicole Avena:

Thank you so much for having me. This has been great.

Mary Purdy:

To learn more about the science of sugar addiction on brain health, be sure to visit [healthcare.orgain.com](http://healthcare.orgain.com) to check out Dr. Avena's webinar, What Sugar Does to Your Brain: The New Science of Sugar Addiction, which is provided on demand as part of Orgain's Professional Education Webinar Series, which, as with all of Orgain's healthcare webinars, has been approved for one continuing education credit for registered dietitian nutritionists and for dietetic technicians.

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