Introduction to Dr. Cleopatra Kamperveen

For this DrTalks, I have a really wonderful guest. She has so much energy and knowledge. You're going to love her. This is Dr. Cleopatra Kamperveen. She is a PhD doctorate, and she's an expert in fertility, intergenerational health.

Dr. Kamperveen. Can you tell us about yourself and how you got interested in fertility? Yes. Thank you so much for having me. And thank you for putting on this really important event.

And I think that not many people have an understanding of how weight and BMI and body composition affect fertility in pregnancy and the intergenerational transmission of health, which is how health is transmitted from one generation to the next.

And I'm really excited to be here to talk about this. And I have a really profound intergender professional health story, which is how I became not just dedicated, but really obsessed with fertility.

I lost my mother at birth. You can imagine that kind of start to life is profound, profoundly disruptive, profoundly difficult, and its impacts don't really ever completely go away.

But they are so powerful in the early years, when I think those of us who who have moms, and certainly those of us who are moms, can't imagine a world in which you don't have a mother as a safe space, you don't have a mother's love.

And it taught me, by the time I was 5 or 6 years old, I had this really clear understanding that reproduction is the most important thing in the world, and that my mission on this earth is to do whatever I can with my little life, to help reproduction go well for as many women and families as humanly possible.

And then despite that, really, really rocky and difficult beginning to life, I went on to start doing this work formally at 18 years and two months old, in a laboratory in the University of Miami.

So it's now been almost three decades, even though I'm only turning 46 and became a mom very late in life because I was so dedicated to my work in my mission and didn't have a lot of time for love and and all of dating and all of that, or thought I didn't.

And I have lots of thoughts on that now, but and went on to have the most beautiful experience of reproduction and family. I have three super babies of my own.

I had them in my late 30s and 40s and they're amazing.

Fertility, Longevity, and BMI

So, despite that really difficult beginning and living proof of what's possible for us, even against the hardest of odds. Wow, thank you for sharing all of that.

Yeah, what an impression. And it's always so much more powerful when there's, I think a personal reason why someone does this, right. It's not a job. It's not a career.

It's. It's a personal mission. So. Wow. Thank you for sharing that. Well, you know. Let's start off by talking about what that relationship between fertility and BMI or weight is.

Can you explain how that works? Absolutely. And I want to preface this by saying that this is really important for

people who want to get pregnant and want to have a healthy baby, but this is also really important for people who are not interested in having children at all, or not interested in having any more children.

They're beyond that point in their lives, because there are intimate ties between our reproductive longevity and our longevity. Overall. And let me make this really concrete for the people listening, because I think it's powerful to hear this out there.

There are multiple lines of research that indicate this relationship between reproductive longevity or fertility and longevity. But I'll give you two examples.

So one study found that a woman who who has children and gets pregnant naturally after the age of 33 is twice as likely to live to the age of 95. And there's another study that found that centenarians so these are people who live to be 100 and specifically women who live to be 100 or older were four times as likely to have had children in their 40s.

Now there are hypotheses about, remember, this is correlation, not causation, but there are hypotheses about why this is. And the general hypothesis and belief is that there are differences in the rate of biological aging between those who can reproduce longer and there and they live longer, and those who can't reproduce longer and have tend to have a shorter lifespan.

And we know that this is actually true not just for females, but it's true for males as well, and probably across genders. But of course, in the research, they're looking at that dichotomy of male and female, the binary.

So I think what I just heard you say is if you are healthy enough to have a child after 40, then that is a good sign that you might live a lot longer.

Exactly. Because you are aging more slowly biologically. And we all know this intuitively. So think about the people you encounter on a daily basis. There are some people who look about their age, so biologically they're aging at an average rate.

There are some people who look very young for their age. My magical hubby, as I call him, is in his 50s and can easily be mistaken for someone in his 30s.

He is aging beautifully biologically. And then there are other people who look much older than their age. And so that's exactly what's happening at a reproductive level.

And the reproductive system is is mirroring the larger systems and the larger organism. So when we go back to that concept of BMI and fertility, can you talk about what that relationship is.

Absolutely. Okay. So let's dive into that. So there is a fertile zone of BMI. And that fertile zone is 20 to 24 plus or minus one. So give yourself between 19 and 25.

And by the way this is about where we want to be for good health in general. But this is absolute. And so again they're mirroring each other even if you're not wanting to have a baby right now, but especially if you are.

And we know that being above or below or above that fertile zone of BMI can make it very difficult to get pregnant, stay pregnant, and have a healthy baby.

And I want to dive. I want to unpack this a little bit because it's really important and it's really interesting. So I first want to say that the fertility in pregnancy Institute and in our world renowned primester Protocol, you will always know that we are a body positive space.

I'm a tall, curvy woman. I have all the curves. Right. So this is not a judgment in any way whatsoever. This is based on what we know from the scientific data.

And the scientific data are very clear. Whether you want to conceive naturally or you want to use IVF, your BMI is going to be a critical indicator of your likelihood of success.

So to give yourself the best odds of success, you want to get into that fertile zone. But here's what's really interesting. Being below the fertile zone is even more consequential than being above the fertile zone, because remember that the that our body fat and our muscle are organs of both longevity and of fertility, and they send critical messages to the brain, to the ovaries about whether there are sufficient resources for reproducing.

Body Composition, Waist-to-Hip Ratio, and Intergenerational Health

So when there is a lack of safety or a threat to survival, including through signals of body fat stores and nutritional status and caloric intake, then the brain is sending the signal that it's not a safe time to ovulate and risk getting pregnant.

It's not a safe time to conceive. It's not a safe time to grow a human, to birth a human, to have to breastfeed a human because there's a threat to survival.

So it's really important to be in that fertile zone. And it's just as important, if not more important, to make sure that you're not below the fertile zone of BMI.

I also would like to say something about body composition more broadly. So BMI is an imperfect measure of what's happening in the body. It's important, it's reliable.

It's used in tons of epidemiologic and other kinds of studies. And it's a reliable predictor of outcomes. So we use it. It's an important proxy. But it's imperfect because it doesn't take into account how much muscle mass someone has, for example, where fat is deposited on the body.

So we know that body fat stores in the midsection are most harmful for fertility, both male and female fertility, as well as for longevity. So and also in the upper body can be as well.

But the body fat that gets stored in the middle tends to be highly inflammatory, which causes a cascade of other problems. I'm sure you've had other people talking about this.

So another thing that you can do is you can go on and use a BMI calculator and quickly estimate your BMI. We do this in the Prime Minister protocol, but you can also do waist to hip ratio, which is taking your waist circumference and your hip circumference and dividing the waist circumference by the hip circumference.

And ideally you're looking for 0.7 or lower. And that is your fertile zone for your waist circumference, your your waist to hip ratio. I love everything you said there.

And it's applicable to all of the conversations in this summit, which is a lot of this is about the science. It's not a judgment. And people can be healthy at different weights.

Right? The BMI it's important to think of BMI as a screening tool. If you are way outside of the number either direction, it's probably pretty accurate that you are not at a healthy weight, whether it's too low or too high.

But for a lot of people, it is not an accurate measure because it can't tell you if it's fat or muscle or where that fat is. And like you said, that fat around your belly or the visceral fat is the stuff that's really inflammatory.

It's affecting really all of our health. If you have a lot of weight in your legs or your arms, you're really curvy. You have large breasts like that.

Weight really isn't impacting your health the same way that belly fat is. So I think that's really, really important to point out that this is number one, not a judgment.

I always say I don't think everyone needs to be a size six or a size eight or whatever. Right. And it's also really important to realize, like there are other measurement tools we're actually going to have, we have a body composition, talk, as well.

So definitely would be a good one, to check out to understand that better. But I think that that's so, so key to understand. It's like it's not a judgment.

It's the science and it's the BMI is not a perfect tool, but it gives us like a screening, a place to start. Absolutely. I think that's really important.

And I really like the waist to hip ratio as a measure, because it gives you a better sense of how your body composition is affecting your health and your fertility, even more so than BMI.

So somebody like my magical hubby, as I call him, is super muscular, so he has a higher BMI and yet he's so healthy. Right. And and you see that in how how he's aging on the outside and also on the inside from his labs.

So I think that that's really important. The other thing that's really interesting because you talked about using BMI as a measurement tool, and it's signaling to you if you're on either end or either extreme or outside of either extreme, that there's you're probably you probably need to address your weight, whether it's bringing it up or bringing it down to be your healthiest self.

Well, this also proves to be true for setting the stage for the health of our future generations, our children, our grandchildren, our great grandchildren.

So there is something called epigenetic programing and adult developmental origins of adult health and disease. Now what this refers to is how we might be genetically programed for health of our children and even future generations during the Prime Esther, which is the period of time leading up to conception.

We can talk a little bit more about that if you have questions about it. But during the Prime Minister and also during pregnancy, we are programing our our future babies system to know what to expect of the world that it will be born into.

And if you are underfed or overfed during the semester and during pregnancy, you are programing your future baby for less than ideal health. And so we often hear people talking about how danger it is dangerous it is to gain too much weight during pregnancy.

But the truth is, not gaining enough weight during pregnancy is also a problem, and they similarly increase risk for obesity in our future children for possibly diabetes, depression, cardiovascular, cardiovascular disorders and events.

And so it's really important that we're in that moderate zone. We're in that moderate zone of nutritional of caloric consumption. We're in that moderate zone of weight gain during pregnancy.

We're in that moderate zone, that fertile zone of BMI of waist to hip ratio. Because that's where we're giving ourselves and our our future generations, our babies.

The best odds of being sound in mind, body and spirit. We call our we call our trimester babies super babies because we've done everything in that period of time leading up to conception and then continue throughout pregnancy to be genetically programed them to be healthy, happy, smart, neurocognitive, strong, emotionally well adjusted and resilient to the stresses of the modern world.

And we know that the stresses that we face in our world today are really different than the stressors that we were evolutionarily. Program to deal with.

And so that mismatch between our evolutionary biology and stress response system and the reality of the modern

world is creating a lot of the problems that we're seeing today, including rising rates of female and male fertility challenges, including autism and other kinds of health conditions in children.

And one out of every two children, almost one out of every two children today has a chronic mental or physical health condition. And we should be deeply alarmed by this because, look, children are perfect and get to be born perfect so that they start off their lives with everything available to them.

I don't think that there is a more accurate statement than a woman or a parent is only as well as her least well child, I mean, and I think we look around us and we're like, well, everybody else is doing this.

Everybody else eats this way, everybody else lives that way, this way. Everybody else just has sex and gets pregnant. Why do I need to prime Esther? Why do I need to prepare?

But what I want to say is that what's become normative is not necessarily normal.

Epigenetics and the Prime Minister Period

And we really, we need to not be normal in order to have the best odds at a happy, healthy life for ourselves and for our children. Wow. Like so many gems there.

You know, I want to, like, clarify this epigenetic thing in case it's like new to someone. And you talked about programing, which sounds like, oh my gosh, like government spies or like programing or something, but it's like it's the genes being turned on and off.

Right? So we have this really complicated genome, but our genes aren't always on and off. That's why all our cells are different, right? They all have the same DNA, but they're doing different things based on what genes are on and off and what we are doing, the health of our body, the things that we're putting into our body or interactions with the world are turning those genes on and off.

And that turns our our baby's genes on and off. Right. And so that's me. That's that's what this is. And so, on my side, one of the things I talk about this with my adult patients is when we're trying to figure out why someone struggles with their weight, and we just can't figure it out. Right.

They're doing, like, kind of all the right things. One of the things can be epigenetics, right? Like you were programed from birth to struggle more with metabolic disease.

And it's not your fault. Right. So I've always tried to figure out, like, why don't I struggle with my weight? And that's been a lot of my interest in this because I met so many people who are doing the exact same things as me, but they were struggling.

And I think one of them is epigenetics. My mom was like an aerobics instructor while she was pregnant with me. You know what I was like? She was like super, super healthy when she was pregnant with me, right?

And so, like, I had that benefit the second I was born of the epigenetics that we're going on here. Right. So I think that that that's on both sides. Right.

It's important when we, have a pregnancy to do the best we can for our health for that baby. But also if you're like, what doesn't make sense? I'm doing the right things.

I always have realized that genetics are really complicated. Genes turn on and off, and you may have some of this epigenetic programing that is out of your control.

That's absolutely right. So I love this so much. And how you brought up the example of your mom being an aerobics instructor while she was pregnant with you, because there is a growing body of research that shows just how impactful exercise in both moms and dads in the semester and during pregnancy is.

Obviously, you're not starting a new exercise regimen during pregnancy. You're only doing what you've been doing and and anything, only things that are not, contraindicated during pregnancy or for your pregnancy specifically if there's anything unique about your pregnancy.

That being said, physical activity in in both parents, both before pregnancy and during pregnancy is critical for setting up our super babies. And I have to tell you, I have three super babies and my my husband and I work, worked out a workout a lot, and worked out a lot when in the Prime Master and during pregnancy with each of them, and they have the biggest muscles of anyone in their like age groups.

You know, they are just two of them are on their path to being pro footballers. One's a dancer. I mean, they're just, you know, they're just spectacular.

And I attribute a lot of that to the Prime Minister. And you talked about how, is some people are you received genetic privacy, epi genetic privilege and advantages when it comes to body weight and BMI.

And there are other people who are listening are like, you're so lucky. I, I am the opposite. It's really hard for me to manage my weight. And we do this thing called, prime DNA at the Fertility and Pregnancy Institute, which is a type of epi genetic testing.

We focus it for fertility in pregnancy, but also longevity. And what's really interesting is there are specific genes that predispose people to sugar addiction and to overeating.

So those can those can contribute to having a harder time managing your weight, but also having a harder time managing your eating. We have one mama, who just had her second super baby girl with us.

Mama Danika Bresha, and she talks publicly about this. So that's why if I can share it publicly and she has a history of eating disorder and, food addiction, and when she did her prime DNA, she just felt like so blown away that there were things that she struggled with for so long that she blamed herself for not having enough discipline or whatever it may be, only to learn at this point in her life, when she was ready to have her first super baby, that it was her genetics that were predisposing her to the things that she was struggling with.

And I think it's really important when you understand your genes and you understand your genetic strengths and privileges and your genetic vulnerabilities, then you understand more about why you are who you are and you.

You have more information to make different choices and to set up your an internal and external environment to support who you want to be, as opposed to letting your genes run the show.

And it's true that we have the genes we're always going to have. We can't change our genes, but we can affect how our genes express themselves, and also how our super babies and super grand babies genes express themselves because we don't just pass down our genes, we pass down our epigenome as well.

So that's really, really important to understand. Wow. Yeah, I love how you explain that. That's really amazing. So okay, you've mentioned the term trimester, but before today I had not heard that term use.

So will you just scroll down a little bit about what the prime Minister is and why it's important? I think we kind of get a sense of why it's important, but what do you mean when you say Prime Minister?

When I say prime minister, I mean the period leading up to conception and specifically the 120 days plus leading up to conception. So this is a critical developmental window, just like pregnancy, postpartum, early childhood, adolescence.

These are what we call in science critical or sensitive developmental windows because they have a huge impact not only on the moment but on everything else that comes after them.

And so the Prime Minister is this critical developmental window where we have the power to change the quality and

expression of the genes that we have and that we're passing down.

Why is this important? This is critically important for pregnancy preparation and making sure that we have our healthiest pregnancy and our and our super babies.

It's even more important if you're someone listening and you've had difficulty getting pregnant or staying pregnant, or you've had a previous pregnancy or child that wasn't who wasn't healthy.

Okay, so we have a lot of people who come to us with an older child who's autistic and they say to us, please help us reduce the risk of having another autistic child.

We love our child, but we want this next child to have an easier go at life, right? Or to have an easier time raising them because sometimes it's really challenging.

So that's one example. Or if somebody had IVF cycles where none of the embryos came back from us, only normal, or they if somebody experienced miscarriage, then almost always there was a chromosomal abnormality or other type of defect, especially if it was an early pregnancy loss.

About five, six, seven, eight weeks, even even possibly the ninth or 10th week. So, that's why that's what the Prime Minister is. Let me give you a visual to explain it.

Just one more way for people who who learn in different ways. So think of the three trimat trimesters of pregnancy, right? For a second third trimester on a continuum.

And then a lot of people know about the fourth trimester, which is that three months postpartum. Right. So the the fourth trimester is on a continuum with the pregnancy.

Super Babies, Pregnancy Preparation, and Lifelong Optimization

And really, mama and baby and family are happiest and healthiest when the fourth trimester feels and looks as much like the first, second and third trimester as possible, meaning that it's dark, it's not too loud, but there's there's white noise or pink noise or whatever background noise.

They're they're, tightly swaddled. So they feel like they're still in utero. They're close together, skin to skin. All of those features of a baby being in them in the mother's womb should be recreated as much as possible in the fourth trimester to make that transition into the outside world easier for everyone involved.

So the fourth trimester is a continuation of the first, second, and third trimesters, and the prime master is the same. But on the other side before the first trimester begins.

So you really want to be living what we call the pregnant life. And we have a very specific way of doing that in the semester, we use the Prime Master protocol, and many people come to semester with us because they're older.

We are our mamas are having their first baby at 40.6 years old, so 41 years old on average as compared to in the general American population where first birth is at 26 years old on average.

So 15 years later, okay, so when they're older or they're afraid, they've they're running out of time, they're afraid about their egg quality and quantity.

They're worried about sperm quality and quantity. And many of them have had many years of trying to conceive and many years of failed fertility treatments.

And then there's another group who, you know, they're they're kind of they're they're they take a really proactive stance to everything that's important to them in life.

They're optimizers, they're biohackers. They're like, okay, I'm doing this now. How can I do it the best way possible? Who can be my guide? And then they come to Prime Minister.

So today that this has changed a lot over the decades. But I would say based on our most recent data, about 26% of people are coming to prime minister even before trying for the first time, which is a big change because it's it's really finally caught on that this is a good thing to do, even if you're not expecting to have fertility challenges, but still, the vast majority that other 74% have had up to two decades of being considered infertile.

We don't use the word infertile because we know from the scientific data that there are very few people in the world who are truly infertile or sterile, that the vast majority of people are experiencing challenges to getting indoors, being pregnant, that are temporary, and that can be overcome with the right set of tools, which are really more about an inside out job.

It's not about somebody giving you your fertility. It's about your. Your fertility is innate to you and it's about going in to access it, tap into it and ignite it.

And that's what the Prime master protocol does. It helps you to do that through, a psycho bio neuro immunological sociocultural approach. I mean, it is just unlike anything else in the world, reflecting the interdisciplinary nature of my training.

As we were talking about before we began, you were like, what disciplines? I'm like, well, there are like ten, but we'll simplify right? Well, because you have to bring it all together. Right?

If there was just one solution, like we would be doing it for everyone. But this level of help is complicated. It's very doable. But there's not just one thing that that solves any of this.

So I think it's important. And that's why people who are able to bring so many perspectives together, like you, are able to create programs that have more impact.

Right? Because they're not just focused on one thing. That's absolutely right. That's absolutely right. Like, I mean, for example, and this is relevant to BMI and waist hip ratio.

There are critical aspects of personality and our psychology call. These are psychology, fertility feedback loops that affect the sense of safety in the central nervous system.

Affect the HPA axis, which is our body stress response system that have a profound impact on fertility. In fact, more and more we understand that features of a type A personality are really counter productive when it comes to having healthy fertility, having healthy pregnancies, and having our super babies.

And that's not for someone who has type A tendency to feel badly. And that and I would I would really like to point out that a lot of women would identify, and I'm sure a lot of the women listening would identify as type A, they're high achieving, they're driven, they're ambitious, and have had to lean into those characteristics and qualities in order to survive and thrive in male dominated environments.

And so it's kind of like our social world has pushed us more in the direction of being type A as a species. And I think women especially, and really in order to make and raise our super babies, we need all of us, both the masculine and feminine parts of ourselves, in good balance with one another.

When you talk about super babies, you. I've heard that term a few times. Tell us what a super baby. Is when you have your super baby, it means that you got to have the healthiest, happiest, brightest, most well-adjusted, most neuro cognitively strong and resilient to the stresses of the modern world.

Baby that you could possibly have given your genome and your epigenome, your genetic expression, and that of the other person providing DNA for your baby.

And we know that this trajectory is not doesn't just get passed down to one generation, but process, at least for generations. And we think probably more than that.

So it's when we at when we talk about super babies, it's not implying that one person's baby is better than another person's baby, or that we're making designer babies.

It's nothing like that. It's saying, okay, here's what I've got. Here's what I was born with. Here's what I'm, I'm, I'm doing and and working with on a daily basis.

How can I make the most out of that for the the human that I want to create. And most people are coming to do it in service of their fertility in the first place.

But then, wow, the silver lining of this, the weight that they have and the struggles that they had, which you would never wish on anyone, is that they did all this work in the Prime Master and during pregnancy to take care of their fertility, overcome the challenges that they were facing.

And now they got this, their most amazing baby, their super baby. And I think one thing I'd highlight, which I think is really clear based on what you said, but is not what happens very often in the medical world and in the medical research is there's this trimester, this pre-pregnancy time period.

And a lot of times, like all of our studies, when I went to review this, like separate that from pregnancy. So we'll do interventions before pregnancy and try to optimize things like, say, weight loss.

And then when someone's pregnant we're like, oh, like we're done, right? Or vice versa. We wait until someone is pregnant before we start, you know, like doing anything.

And really, I think what you've made really clear is that both of those time periods are important, right? Like we need to do the healthy choices and the stress reduction and all the work, to create this healthy body before pregnancy.

And we need to continue it through pregnancy too. Right? So and then after we, we have this whole process we need to go through. So these are not isolated times.

They're all part of the same process. And a lot of the same things we do to have to get pregnant and be healthy are going to be the same things we want to do while we're pregnant.

Life long. That's exactly right. We always say, Prime Minister, life is for life because once you've done it, you can't go back because you look amazing, you feel amazing, your brain has changed.

You have changed. Your relationship has deepened. I mean, we have so many mamas who come to Prime minister and they're there if, let's say they have a male partner.

Not that everyone has a male partner, but let's say they have a male partner and he's really not interested in prime mastering with her. He's like, I don't really want to do this.

You can do this. And then he starts to see the changes in her. She's less anxious than she's ever been. She's happy, she's steady, and she looks like she's aging in reverse.

She has so much energy and she has so much more hope and belief and faith in her body. Her eggs, her baby, her her super baby's coming. And all of a sudden he's like, okay, I'm gonna try that with you, and I'm going to try that with you.

And it's like, you can't help but be attracted to that when you feel and see that energy. And I always tell the mamas, don't push lead by example because as you change, inevitably he's coming along with you.

He'll get there. And it just happens naturally because it is for life. Once. Once you've done it, you can't go back. And once you see it, it's really contagious.

And that's a beautiful thing about Prime Minister Life. But what you said is really important because many people don't even know that they're pregnant until they're six weeks pregnant.

And already the neural tube is developing. What what will become the brain and spinal cord and so many other things have already been set in motion. And so you you really need to be doing this work.

Once egg and sperm are released and they meet, you can never go back and improve the quality of the egg and sperm that were released and met. And those are the foundation for the cell division and all all of the processes that will become your future baby.

And their how their brain works, their immune system, their organs, their their chromosomes, etc. so that has to be done in the primester before ovulation happens and the egg is released before sperm, the new batch of sperm are produced and the sperm are released.

And then, you know, one egg and one sperm generally meet. So that that is critically important. So when you go to the doctor and the doctor, you say to your obgyn, I'm thinking about having a baby, what should I do?

And they say, oh, well, maybe start taking a prenatal the month before, or you don't need to do anything until you get your positive pregnancy test and then start taking your prenatal and some folic acid.

Well, that's very bad advice. It's too late. Too late? Yeah, absolutely. Yes. Well, the trajectory is set. You can I mean, you can still go and take the best.

You can, right? It. I mean, I think we talk about that all the time. Just like you are helping 40 year old women get pregnant all the time. It's never too late.

But, like, we should be proactive and we need to educate ourselves on how we can best take care of our bodies, right? Because and I'm I'm a medical doctor. Right.

So I was trained to treat pregnancies. That's our standard medical advice. We have to realize that the standard medical advice is like the bare minimum so people don't die. Right?

Like that really is like when we talk about vitamin D levels and thyroid, like everything we do is is what it's really meant to keep people from dying.

Western medicine, is not focused on optimizing health. Right. So if we want optimal results, we have to go above and beyond what that standard medical advice is.

Absolutely. It's a lot like the recommended daily values for nutrients. Right. That's those are minimum in most cases. Those are minimum amounts that help to prevent deficiency.

That doesn't mean your levels are optimized. So I have to say we we have our super baby nutraceuticals. And we've created the most amazing trimester. So pre-pregnancy and fertility and prenatal vitamin in one.

And it has all of the complete recommended values for pregnancy for all of the nutrients. This is not you know, this is I'm talking for 4000. I use a vitamin D, which is what the American College of Obstetrics and Gynecology says a pregnant woman needs.

And you want to start doing that in the semester. But every other formula you find out there will have 1000 or 2000 at best. These things are completely watered down.

And so you, the you I think it's really what you've said is really important. You have to remember these are minimal

and minimum requirements and it's really critical for us to be critical consumers of information and to not just go along with what everybody else is saying and everybody else is doing blindly, because what everybody else is saying and doing is has gotten us to where we are.

And we're in a really difficult situation with the health of human beings across the lifespan and especially the health of children. But that of adults is, is is really bad.

And, and overweight and obesity are among the driving factors of these adverse health trajectories that that were on both in childhood and in adulthood.

Well, Dr. Cleopatra, like a wealth of information, fascinating discussion and really, I think uplifting, right. Really empowering that there are things we can do to improve our longevity, improve this intergenerational health, right?

The health of our children and great grandchildren, and improve on our fertility and create super babies. Now I'm like, oh my gosh, are my kids super babies?

I'm, you know, they're just they're just regular babies. If people want more information, how can they find you? Oh, please come to fertilitypregnancy.org We have a ton of resources there.

You can grab the the free checklist that we have there. If you go to fertilitypregnancy.org/shop, you can find our amazing one of a kind, genetically and emotionally intelligent nutrient formulations there that are, I'm, I'm beyond in love with and proud of and really have been a labor of love for a long time.

So come join us and get the Primester, get your nutrients, get the information, support and guidance that you need. Wonderful. Thank you so much. Thank you for having me. It's a pleasure.