Hyperemesis Gravidarum with the Doctors from HER Foundation

Episode 168 · March 26, 2020 · with Dr. Marlena Fejzo, Dr. Aimee Brecht-Doscher and Dr. Arielle Mitton

IN THIS EPISODE

Hyperemesis gravidarum (HG) is not morning sickness. Dr. Elliot Berlin, DC sits down with three doctors from the HER Foundation who have each lived it: medical scientist and researcher Dr. Marlena Fejzo, OB-GYN Dr. Aimee Brecht-Doscher, and primary and urgent care doctor Dr. Arielle Mitton. Each shares her own harrowing pregnancy story — weeks bedridden, feeding tubes and IV nutrition, babies lost, jobs lost — and what those experiences drove them to learn. Together they explain how HG differs from ordinary nausea and vomiting, how common it really is, the outdated myths that blamed mothers for it, the genetic research pointing to the hormone GDF15, and what early, aggressive treatment and real support can change.

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DR. ELLIOT BERLIN, DC: Welcome to the informed pregnancy and parenting podcast I'm your host Dr. Elliott Berlin in a previous episode of the podcast my wife and I interviewed actress and comedian Amy Schumer largely about her very intense pregnancy in which she suffered from a condition called hyper emesis gravitarum or HG Since airing the episode we received a bunch of heartbreaking Personal stories from women who have struggled are currently struggling or who have survived HG until recently There's been a lack of meaningful data mixed with misinformation about this condition We made a commitment to Amy and to others who share their stories That we would do our best to find experts in the field who have the latest and most accurate

DR. ELLIOT BERLIN, DC: Information regarding questions such as what is HG who gets it and anything we know about how to manage or treat it I'm honored and excited to host three experts in the studio today All of whom are women who have not only experienced HG, but who are leaders in its research and treatment Dr. Amy Brecht-Doscher is an OB-GYN. Dr. Ariel Mitten is a primary and urgent care doctor and dr Marlena Fezo is a medical scientist and researcher studying HG and

ovarian cancer doctors Thank you very much for being here and joining me today and welcome to the podcast. Thank you for having us I've been really moved by the stories that came in about People who struggled and suffered with HG and the stories that I even see in our practice

DR. ELLIOT BERLIN, DC: And I've had no practical information to give them and so I'm really grateful that you're here today I know that you each have a personal experience with HG and I'd love to in this first segment Just learn more about it and it surely is why you're so passionate about it. So dr. Fezo. Let's start with you

DR. MARLENA FEJZO: Okay, so I had HG in two pregnancies in my second pregnancy It was much worse than the first back in 1999. I was unable to Move without vomiting So I just had to lie down completely flat. I couldn't even sit up. I couldn't keep anything down for 10 weeks Eventually, I was put on a feeding tube and put on seven different medications, but nothing really worked So at 15 weeks gestation the baby died and after that I Dedicated much of my career to trying to understand HG

DR. ELLIOT BERLIN, DC: I'm so sorry. That's Incredible that you took your experience and made your life about helping other people with it. Yeah

DR. MARLENA FEJZO: Well after that I couldn't go through that ever again or put my family through that again So I ended up to complete my family getting a surrogate And so I was able to complete my family that way and I felt really blessed that everything went so smoothly with that So I felt like I should be able to give back after that

DR. ELLIOT BERLIN, DC: In your case when you were going through it did people in 1999 know what it was?

DR. MARLENA FEJZO: Generally people didn't know what it was. I didn't know what it was. In fact when I had it the first time in 97 I was never diagnosed I went to the ER twice and I was bedridden for about eight weeks and I was never diagnosed with hyperemesis the second time People around me had no idea what it was My boss wanted me just to come back to work. They actually said I should terminate and Your boss wanted you to terminate the pregnant. They said that to someone else. Why doesn't she just terminate? and try again. So it wasn't very well-known. It has become more well-known as more celebrities come out with it. That really helps a lot. Kate Middleton was the first celebrity that

DR. MARLENA FEJZO: came out, I guess, and then Amy Schumer. That really helps to get the word out about it so that it becomes more of a household name and that this condition exists and that it's not morning sickness.

DR. ELLIOT BERLIN, DC: Yeah, and a little bit down this episode, we'll talk about how common it is and maybe why there's not that much talk about it, even though obviously many people suffer with it. Okay, Dr. Amy, you also experience HG.

DR. AIMEE BRECHT-DOSCHER: Yeah, so I had finished training and I was practicing as an OB-GYN before I got pregnant. So I had learned about HG during residency. I had treated patients with HG and I really thought I knew what I was doing and then I got pregnant. And initially, I just kept

getting sicker and sicker, but I had a fair amount of denial, I guess. So I just, I'm just pregnant. I'm not sick. I wasn't keeping anything down. I got long-term IV treatments. I would hook myself up to IV treatments in between deliveries during night call.

DR. ELLIOT BERLIN, DC: You put your own IVs in?

DR. AIMEE BRECHT-DOSCHER: Well, I had a PICC line, which is a long-term IV. So I would just hook it up to the IV and then I'd hook it up and then I'd give myself some fluids and then they'd call me to go do another delivery. So I'd unhook it, do another delivery, come back, give myself some more fluids until finally I basically couldn't get up off the floor anymore. So then I had to stop working. I was getting IV nutrition and I also had a similar experience when I was 18 weeks pregnant, the baby died. And that was after months of struggling with this. That was my first pregnancy and so I really wanted to be a mother and so I did it again. And the second time I was as sick, if not sicker, I did stop work a little bit earlier, the second time around. And I had

DR. AIMEE BRECHT-DOSCHER: several hospitalizations. I was in the hospital for a total of about six weeks during my pregnancy because of various complications. I was on IV nutrition the whole time. I didn't eat anything the whole pregnancy. I was getting IV nutrition. They turned it off when they turned on the induction medications. I was induced because of cholestasis. So then, you know, my son was born prematurely. He was in the NICU. It was a hard time, but then he's a normal kid and I have not done that again because I couldn't put my family through that again. I couldn't do that knowing that he was there and I needed to be there for him because there were times in my pregnancy where I had to say, no, if I die from this, I die from this and I will do everything

DR. AIMEE BRECHT-DOSCHER: I can to get through it, but I'm not gonna terminate the pregnancy. I've treated hyperemesis differently since then because I learned a lot, you know, after going through it and then I've, you know, tried to learn everything I possibly can about it and try and help so that we can treat mothers in general better with hyperemesis.

DR. ELLIOT BERLIN, DC: Thank you for sharing that. Every single story, it just is like impossible to imagine and it's the same for the stories that are coming through. In working mostly with pregnancy, I've only seen in the office very few people diagnosed and my experience with my patients is they're able to somehow hide it well enough that they suffer at home and they come out with a happy face on. I mean, I kind of did that until, like I said,

DR. AIMEE BRECHT-DOSCHER: I basically couldn't get up off the floor anymore and I don't think anybody really knew except they were watching my clothes get looser. Like the people that I was working with were commenting on how my clothes were getting looser because I was losing so much weight. I couldn't keep my scrubs up. But that's really all they knew and otherwise I was functioning and working.

DR. ELLIOT BERLIN, DC: Even though you're getting deeper into your pregnancy, it's usually the other way around.

DR. AIMEE BRECHT-DOSCHER: Right, exactly.

DR. ELLIOT BERLIN, DC: When you said IV nutrition, that was the sole source of your nutrition?

DR. AIMEE BRECHT-DOSCHER: Yeah.

DR. ELLIOT BERLIN, DC: In your case, does that prevent you from throwing up?

DR. AIMEE BRECHT-DOSCHER: No. It prevents you from dying of malnutrition or your baby dying. of malnutrition but it doesn't change anything for most people in terms of the symptoms of HG and it didn't for me it definitely didn't make me feel any

DR. ELLIOT BERLIN, DC: better. So is not eating just because you have no desire to eat or you don't want to throw up the things that you eat? I would throw up everything I would

DR. AIMEE BRECHT-DOSCHER: try to eat I remember one time eating a grain of rice literally one grain of rice and immediately I threw up probably a liter and I hadn't eaten anything you know in like 24 hours I ate one grain of rice and out comes a liter I was like well yeah I'm gonna keep that liter in me then and not

DR. ELLIOT BERLIN, DC: eat another grain of rice. That seems like a logical calculation. Also a

DR. MARLENA FEJZO: lot of times for me if I tried to eat something and threw up I wasn't unable to stop throwing up so I would just keep throwing up and throwing up like my body was reaching deeper and deeper and so it was more and more violent each time and I would just keep throwing up and throwing up for hours so eventually that's why I stopped eating and went on a feeding tube it was just my nausea was so bad and it was just too violent. And

DR. ELLIOT BERLIN, DC: with a feeding tube are you bedridden? I was totally bedridden some

DR. MARLENA FEJZO: people can go around but if I sat up if I moved I was basically frozen in my body if I moved I would start throwing up. I think one common thing for all of us is the fact that we were bedridden with HG. It's again still blown away you

DR. ARIELLE MITTON: also had HG with your babies. Yeah and mine was a little more recently I have three kids I'm from 2013 to 2018 my first one I had what I call severe NVP severe nausea vomiting in pregnancy and my second two were HG so I can kind of touch on that a little just to you know show a little bit of the difference so like with my first one for example you know I lost five or six pounds the first four days that I felt sick I stayed off of work but I would then I was able to find you know one food here or there that I could eat and I was in residency at the time and I managed to get through you know my ICU rotations and things like that so that's my non-HG pregnancy and to highlight the difference I was in fellowship with my second one which

DR. ARIELLE MITTON: was my first HG and the way I describe it is it felt like a truck hit me. I woke up one day around six weeks and I was supposed to go into fellowship and I started sitting on the stairs in our apartment and I cried my husband said what's going on I said I can't move and from that day until with that pregnancy lasted till 20 weeks I was in bed on the couch basically was my new home and I had luckily a compassionate doctor but I lost 20 pounds. My mom kept saying you look like you're a Holocaust victim and there was nothing I could do just like you know the two that we heard before I couldn't keep anything down my mom would bring me those insure shakes and I would put a straw in and force it down

DR. ARIELLE MITTON: but it would come up it wouldn't stay down for more than two minutes I would force myself to do it because it made my mom feel better when I did but I would cry when I would do it because it would hurt so much and I would like Marilena I would have vomiting after vomiting because of that I was so weak that I couldn't walk without a wheelchair I was pushed in a wheelchair if I had to go my doctor's appointments and my husband brought salad bowls as a makeshift bedpan because I couldn't get to the

DR. ELLIOT BERLIN, DC: bathroom by myself. In your first pregnancy was what you said is more like a severe case of nausea and vomiting in pregnancy is there a moment where it

DR. ARIELLE MITTON: crosses over? I think with hyperemesis you just can't stop vomiting and you can't move. So in your first one you could? I was able to do my rotations sure I might throw up once a day or twice a day but I could also you know eat some bread or you know I was not able to do that during HG

DR. ELLIOT BERLIN, DC: pregnancies. So with hyperemesis it's just nothing? You can't eat anything. Nothing stays down. Apple juice didn't stay down nothing. So did you also do something for

DR. ARIELLE MITTON: nutrition other than eating? So I did IV fluids I was really struggling with my doctor and I kept going back and forth and like I said he was very compassionate and would have conversations about the pros and cons of everything and we were leaning towards it but I really didn't want to I didn't want to be hospitalized I didn't want to get the parental nutrition and I tried to do these drinks more often even though they would come up I was figuring maybe some minor nutrition would stay in you know just like the little ounce that didn't come up from my vomiting and I kind of made this deal with my doctor that if I dropped below a hundred pounds I would start the nutrition and I got to a hundred pounds and then I went

DR. ARIELLE MITTON: back up to 101 around 20 weeks. Oh wow. You towed the line. Yeah exactly. You towed the line. Do you

DR. ELLIOT BERLIN, DC: think you ever felt better on other sources of nutrition? I don't think it

DR. ARIELLE MITTON: helps with how you feel. I think you still feel gross. In terms of the nausea and

DR. ELLIOT BERLIN, DC: vomiting just and I mean you guys didn't have energy either so. It helped.

DR. MARLENA FEJZO: As soon as I got on the nutrition I felt like I could deal with the suffering more. It's very exhausting to deal with constant nausea mentally because you're just constantly trying to stop yourself from vomiting at least I was. So once I was on the feeding tube, I thought, okay, now I have the energy to deal with this.

DR. ARIELLE MITTON: There was one thing I wanted to bring up, which we haven't really mentioned before, but there's a big financial cost to this, too. I mean, none of us were able to work, because with hyperemesis, you cannot work. It's impossible. And I was in fellowship, and so I was lucky enough to have my training paused and just resumed it after. But most people can't do that. Most people have real jobs that they can't just pause and resume after, so people lose jobs. You

know, they don't get paid. So if you have a baby already, how are you supposed to support your family with this?

DR. ELLIOT BERLIN, DC: Until the time when all your costs are going up, and then your income disappears. From our patients, I feel like they feel like it destroys relationships for them. Like, my husband doesn't understand me, he says, like, just, you know, get up and get past it. Everybody else does.

DR. ARIELLE MITTON: There's a huge isolation.

DR. ELLIOT BERLIN, DC: Or co-workers are, like, picking up your slack, you know, and they don't understand it. You were going to say something.

DR. AIMEE BRECHT-DOSCHER: Yeah. I'm a breadwinner in my family. My husband has always planned to stay home with our kids, and I got pregnant. And so we had just moved, and so he didn't even look for a job. And so I was the only one with an income, and then I couldn't work. And with my first pregnancy, I hadn't been working long enough to qualify for disability. Oh. So I had no income. With my second, I did get disability income, and then I was fired. And I told them I was ready to go back to work.

DR. ELLIOT BERLIN, DC: Really?

DR. AIMEE BRECHT-DOSCHER: Yeah. That's devastating. Luckily, I have a career where I was able to find another job, but I had a new baby, a mortgage, a husband that doesn't work, and they said, no, we don't have a job for you to come back to.

DR. ELLIOT BERLIN, DC: That's shocking and devastating.

DR. MARLENA FEJZO: And the tube feeding is $1,000 a day, or it was back then.

DR. AIMEE BRECHT-DOSCHER: Yeah.

DR. MARLENA FEJZO: Luckily, I had good insurance.

DR. ELLIOT BERLIN, DC: $1,000 a day?

DR. MARLENA FEJZO: Mm-hmm. Because they have to take your blood every other day to make sure that you're getting the right nutrition and the balance is right.

DR. ARIELLE MITTON: And there's no liver incidences to be checked.

DR. AIMEE BRECHT-DOSCHER: I call my son my million-dollar baby because luckily, I had good insurance, and I didn't have to pay those bills, but I added up the hospital bills and added in some lost income and came up with about $1 million, so it cost.

DR. ELLIOT BERLIN, DC: That's insane. I mean, just the physical suffering alone is unimaginable, and then all the things that are around it that make the suffering that much worse.

DR. ARIELLE MITTON: I have a photo of, for my third one, I was pregnant with my two-year-old and my four-year-old at the time pushing me in a wheelchair. I'm supposed to be pushing them in a

stroller, right? And they're pushing me in a wheelchair.

DR. ELLIOT BERLIN, DC: Oh, my gosh. I can't imagine. Was your third different than your second?

DR. ARIELLE MITTON: It was very similar, just that it lasted longer, but it was just as bad. It lasted about four weeks longer, so from six to 24 weeks.

DR. ELLIOT BERLIN, DC: Oh, your first one stopped at 20 weeks?

DR. ARIELLE MITTON: At 20 weeks, so six to 20 weeks, yeah.

DR. ELLIOT BERLIN, DC: I mean, when you're thinking about having the third baby...

DR. ARIELLE MITTON: I was hopeful that I wouldn't have it with my third, because I didn't have it with my first, but unfortunately, that wasn't the case.

DR. ELLIOT BERLIN, DC: I mean, does it play on your mind with having a fourth?

DR. ARIELLE MITTON: Oh, for sure. If I didn't have hyperemesis, I would have had a fourth and a heartbeat.

DR. ELLIOT BERLIN, DC: I guess you never know. We're going to take a break, and when we come back, we'll learn a lot more about what we do know about hyperemesis. Again, I'm so grateful that you're all here, and deeply thankful for sharing your personal stories. We'll be right back. up to 30% off. Welcome back to the Informed Pregnancy Podcast. We're talking about hyper emesis. So now we're going to get some truthful factual information about what we know. Let's start at the beginning. How

DR. MARLENA FEJZO: common is hyper emesis? So about one in fifty women get diagnosed with hyper emesis. So two percent. Yeah two percent. That's pretty high. Yeah it's a

DR. ELLIOT BERLIN, DC: lot of women. I mean there's like four million babies in the United States every year. That's a lot of people when you talk about two percent. Yeah. I'm a little surprised it's that high. Yeah well it's the

DR. MARLENA FEJZO: second leading cause of hospitalization in pregnancy. And you think with all these numbers that people would know more about it right? I'm in the birth

DR. ELLIOT BERLIN, DC: world every day and it's rarely ever talked about in my circles. Two percent is a big number. And what are the symptoms of it that make it different? I mean Arielle you talked about it a little bit between your first pregnancy and your second. But just in terms of how you experienced it. You talked about it in your personal experience between your first and second. Because a lot of people have nausea and vomiting. Something like 70% is an

DR. ARIELLE MITTON: accurate number. Women have nausea and vomiting during pregnancy. And I even had a weight loss with my first you know but it's interestingly for hyper emesis we say that there's a weight loss of more than five percent of your initial pre-pregnancy body weight. Okay I mean

DR. ELLIOT BERLIN, DC: that's also startling because usually again it goes the other way. Right

DR. ARIELLE MITTON: exactly most people are talking about weight gain in pregnancy. So it's interesting that hyper emesis patients talk about how much weight did

DR. ELLIOT BERLIN, DC: you lose. How much did you lose. Right it's already a big deal to not be gaining weight and then losing weight. I mean clinically just even for a person on their own. What are the things that they would look for to say maybe this is not a typical nausea and vomiting of pregnancy. And then also for their providers like what would they be looking for. Because I feel like they

DR. AIMEE BRECHT-DOSCHER: don't catch it very often. So the symptoms that I usually tell people to look for. Well weight loss if they are losing weight. And I prefer not to wait till they get to five percent before we start talking about treatment and lifestyle changes and medications. And it really depends on what point they are in their pregnancy. How fast they're losing weight. And what their history is with previous pregnancies. And then when they aren't able to keep things down. When they can't keep food down. When they can't keep fluids down. If they're not peeing. If they're taking medications and they're getting worse rather than better. Those are the big ones that you know where I am telling patients that this is what you should do

DR. AIMEE BRECHT-DOSCHER: when you should call me or contact me. And that maybe we need to do things differently than the standard every four week appointments at the beginning of pregnancy. Maybe not even seeing someone until ten weeks or so. Because a lot of OBGYN practices expect to do the first intake visit around ten weeks. For someone with HG that's way too late. I'm glad you mentioned that

DR. ARIELLE MITTON: actually because you know in the primary and urgent care world you know we see patients that come in specifically because of that reason because they said oh I call my OBGYN but they won't have me come in until you know the certain number of weeks even though they're having symptoms

DR. ELLIOT BERLIN, DC: like you know. So the symptoms of HG do they typically start early on or

DR. AIMEE BRECHT-DOSCHER: do they evolve into? So women with HG tend to have nausea that starts earlier than women who don't have HG. And then you know the peak of symptoms with nausea and vomiting and pregnancy is around eight to ten weeks. With HG that peak tends to be later and then it takes longer for it to resolve. So

DR. ELLIOT BERLIN, DC: those are other clinical differences. Or it sounds like it may never resolve. Or they resolve at delivery exactly. Wow okay so when you say they start a little bit later for normal nausea and vomiting or pregnancy how many weeks in would you typically expect to see that versus an earlier start for HG? So generally

DR. AIMEE BRECHT-DOSCHER: they're going to have mild symptoms starting around six to eight weeks until when somebody comes into my practice and they're six to eight weeks old. weeks pregnant and they're already miserable, I expect them to get worse and this is somebody I need to see more often. This is somebody I need to treat. If I see somebody extra early, like five weeks, and they're already having symptoms, it's a good clue that they may be developing HG and that you

DR. ELLIOT BERLIN, DC: should see them sooner. Do you see more nausea and vomiting with multiples?

DR. AIMEE BRECHT-DOSCHER: Yes.

DR. ELLIOT BERLIN, DC: So is that another reason why it might peak earlier or be more intense?

DR. AIMEE BRECHT-DOSCHER: So there's more nausea and vomiting in pregnancy with multiples, there's more HG with multiples, but the average for a multiple pregnancy is still not HG. I mean, still most of those people don't have HG and in terms of hormone levels or anything like that, we'll talk about that a bit more. We don't really know exactly why twins have higher rates of HG and why it peaks later. I think it's really just the illness and when you're that sick, it's gonna last longer because you just can't recover from it.

DR. ELLIOT BERLIN, DC: That makes sense.

DR. MARLENA FEJZO: Yeah, so I was also just gonna say that we, at UCLA, we partnered with the Her Foundation and made a HG Care iPhone app. It's free to download at the iTunes store. It's been downloaded in over 40 countries and we made it to improve the communication between patients and providers so patients can download it even if their doctor says they can't come in until 10 weeks. If they're feeling symptoms at four or five, six weeks, they can download the app, they can start to enter their symptoms and it will make a report that they can then forward to their doctor and that way their doctor can see. It summarizes their data. It has a care card and it has a symptoms card and a score for how severe they

DR. MARLENA FEJZO: are so their doctor can see how bad they are. Over the last week, this patient has lost five pounds or ten pounds and is unable to keep down their vitamins anymore. Things that might alert their doctor that, okay, this patient needs to come in and it also alerts the patient. Like it'll give some feedback, like looks like you're dehydrated. Maybe you should talk to your

DR. ELLIOT BERLIN, DC: doctor about that. So you said Her, so let's talk about what that is. Okay, so

DR. MARLENA FEJZO: sorry, Her is the Hyper-Emesis Education and Research Foundation and it is a foundation dedicated to Hyper-Emesis. Hyper-Emesis Education and Research. Kimber McGibbon, who is head of the foundation, she's the director. She also had HG and so she has developed many resources for doctors and providers and she helped to create the content for the app. So does this app go both

DR. ELLIOT BERLIN, DC: ways? Meaning if someone's nervous about their nausea and vomiting and is this turning into something bigger, will this app sort of be like you're within the normal realm or is this app kind of somebody who's extra nervous like maybe I have something that's different like what you guys are talking about and this will sort of help them kind of indicate to themselves and their provider, yes, you probably have something else going on.

DR. MARLENA FEJZO: Yeah, it will give alerts as to whether they should contact their provider and it will, as I said, give this report that summarizes their symptoms that they can share, they can text it

to their provider so that the provider can make a better assessment about what's going on with them.

DR. ELLIOT BERLIN, DC: But could it go the other way also? Kind of be comforting, hey I'm not getting alerts, maybe I'm doing okay, this is not HG?

DR. MARLENA FEJZO: Yeah, it can do that too, definitely. But it's meant for the other way and we've done studies on it and testing of it and patients have said that I didn't even know that I should go into my doctor and then I found out I was severely dehydrated and thank you for the app.

DR. ARIELLE MITTON: What did you say the name was if you look in the iTunes tour?

DR. MARLENA FEJZO: It's the HG Care app.

DR. ARIELLE MITTON: HG Care app, okay.

DR. ELLIOT BERLIN, DC: That's brilliant. When did HG become a diagnosis, a terminology, how long have we been studying it and talking about it and trying to understand more about it?

DR. AIMEE BRECHT-DOSCHER: I think we've been trying to understand more about it for a long time but the understanding evolves over time. There, certainly historically, it was felt a lot of the time to be due to some fault of the mother.

DR. ARIELLE MITTON: Such as the mother not wanting the pregnancy, not desiring the pregnancy.

DR. AIMEE BRECHT-DOSCHER: Ouch.

DR. MARLENA FEJZO: Yeah. Or they, in the 50s they used to say that it was women being ashamed to show that they had had sex.

DR. ELLIOT BERLIN, DC: Oh wow.

DR. MARLENA FEJZO: There's a lot of misogynistic information. out there about it.

DR. AIMEE BRECHT-DOSCHER: And not all of it is gone these days, but there is lots of good research that shows that that's not true, and so we definitely have a better understanding of it now.

DR. ELLIOT BERLIN, DC: But when you talk about 2% of people having it and people not really wanna talk about it, those kind of judgments and labels would make most people crawl into a hole and just suffer privately.

DR. AIMEE BRECHT-DOSCHER: Yeah.

DR. ARIELLE MITTON: So I remember reading that in like the 1950s, women were placed in these isolation rooms because they thought that was a treatment for hyperemesis. And I just can't imagine that after experiencing it myself, I felt isolated. When I was in my bed with my family in the house, I felt so isolated just from the disease itself. I can't imagine being placed in an isolation room.

DR. ELLIOT BERLIN, DC: Making it so much worse.

DR. ARIELLE MITTON: Worse, exactly.

DR. AIMEE BRECHT-DOSCHER: People used to die from hyperemesis a lot more frequently than they do now.

DR. ELLIOT BERLIN, DC: Thankfully rare now. The mothers used to die?

DR. AIMEE BRECHT-DOSCHER: The mothers used to die. So if the mom was so sick and wasn't getting treatment, there were basically one of two possibilities. One was that the baby would die and then the mom would miscarry and then she would get better. And then the other would be that the mom and the baby would die if they weren't getting treatment.

DR. MARLENA FEJZO: It's believed that Charlotte Bronte, the author, died from it.

DR. ELLIOT BERLIN, DC: From hyperemesis? So you're saying either the baby's gonna leach out?

DR. AIMEE BRECHT-DOSCHER: Miscarry.

DR. ELLIOT BERLIN, DC: Is what it sounds like.

DR. AIMEE BRECHT-DOSCHER: Miscarry, yeah.

DR. ELLIOT BERLIN, DC: Well, I mean, leach out all the nutrition from the mother so that she ends up dying. Am I making that up?

DR. AIMEE BRECHT-DOSCHER: Yeah, so.

DR. MARLENA FEJZO: On my oversimplified? Well, both mom and baby would die.

DR. AIMEE BRECHT-DOSCHER: Yeah, so both of them would die and mom would die of malnutrition just like she would die of malnutrition.

DR. ELLIOT BERLIN, DC: If she wasn't getting any nutrition.

DR. AIMEE BRECHT-DOSCHER: If she wasn't getting those calories and wasn't pregnant. The baby doesn't steal that much of the nutrition to actually steal it preferentially from the mom. But what we do know also is that there is a higher risk of pregnancy loss and especially second trimester loss like Marlena and I both experienced in the sickest moms with HG. So one of the historical things that everybody used to believe was that the baby would get what it needs and the mom would suffer and everything would be okay. But we really have found that that's not true both because of an increased risk of miscarriage and complications in the baby. Things like neurodevelopmental complications and.

DR. ARIELLE MITTON: Or small for just a small age babies.

DR. AIMEE BRECHT-DOSCHER: So long term issues in the children of moms that have the worst nutrition during pregnancy.

DR. ELLIOT BERLIN, DC: Today we know a lot more than we did then about what's going on and what's not going on. So the research that you're doing doesn't really indicate that it's because people are ashamed that they had sex.

DR. MARLENA FEJZO: Yeah. For example. So I am a geneticist by training so I looked into whether there was a possibility of a genetic component or not. So first with the Her Foundation we did a familial aggregation study and we found that indeed there was strong evidence for a genetic component that there's a 17 fold increased risk of having it if your sister has it. And about 30% of the women in our study reported that their mother had more severe nausea and vomiting in pregnancy or hyperemesis. So it did seem to tend to run in families and then we started to collect DNA from women and I partnered with the personal genetics company 23 and Me. So with them they scanned 15 million genetic variants in over 50,000 women that had pregnancy histories

DR. MARLENA FEJZO: but no HG and we compared their DNA to 1,300 women who had hyperemesis and then I also collected over 1,300 women with pregnancies their DNA and I repeated the looking at the variants that they had found were associated with HG and confirmed that the hormone GDF15, the variation in the genes around that hormone are significantly associated with having hyperemesis gravidarum. So GDF15 is a hormone that's expressed at very high levels in the placenta during pregnancy and I think what it is is that if you have a genetic predisposition to have higher levels of GDF15 than normal then you're more likely to get hyperemesis gravidarum.

DR. ELLIOT BERLIN, DC: Would that suggest that it's the height and level? itself that's causing the symptoms or whatever is causing the heightened levels is also causing the symptoms?

DR. MARLENA FEJZO: Well, the genes and other factors all contribute to causing higher levels of GDF-15. So for example, GDF-15 also is produced at increased levels when you have nutritional deficiencies. So you can get this downward spiral because...

DR. ELLIOT BERLIN, DC: Spiral. It's already high because you're genetically predisposed to it. And you're not getting any nutrition and it gets even higher so it just keeps building

DR. MARLENA FEJZO: on itself. Exactly. And then you get that spiral from normal nausea and vomiting to hyperemesis.

DR. ELLIOT BERLIN, DC: What is the role of the hormone?

DR. MARLENA FEJZO: The hormone is an appetite hormone and it's recently been discovered so there's not that much known about its role but it seems to be involved in suppressing appetite in times of physical stress.

DR. ELLIOT BERLIN, DC: Well, it kind of makes sense then.

DR. MARLENA FEJZO: Yeah. Higher levels. But in pregnancy, the role is not completely understood. Theoretically, it's to lessen your appetite in early pregnancy so that you don't eat foods that could be harmful to the fetus but we can't really prove that. But that's what scientists think is probably its role in pregnancy. In a normal pregnancy.

DR. ELLIOT BERLIN, DC: Well, it's so interesting to be getting so much closer to cause and effect.

DR. MARLENA FEJZO: Yes. And I just want to say that of all those 15 million genetic variants that we scanned, that included the variants around the HCG gene and the HCG receptor and none of those were associated. So I think it's time to move on to looking at GDF15 as the most likely cause of

hyperemesis.

DR. ELLIOT BERLIN, DC: Meaning HCG was a thought previously or is a current thought.

DR. MARLENA FEJZO: Yeah. I mean people still keep saying that-

DR. ELLIOT BERLIN, DC: In the popular-

DR. MARLENA FEJZO: Yeah. People keep saying HCG is it, even though decades and decades of research has been very contradictory as to whether it's higher or not in HG pregnancies. And so I think it's time to focus on this hormone, GDF15.

DR. ELLIOT BERLIN, DC: And just to be clear, HCG is a pregnancy hormone.

DR. MARLENA FEJZO: Right.

DR. ELLIOT BERLIN, DC: That everybody who's pregnant has and goes up. It's like the hormone in the pregnancy test that you're doing. Exactly. And so I guess the opinion was that maybe either higher than usual levels or fluctuations might have been the source for HG.

DR. MARLENA FEJZO: Right. Yeah. So-

DR. ELLIOT BERLIN, DC: What you're saying-

DR. MARLENA FEJZO: Or rapid rise, but we-

DR. ELLIOT BERLIN, DC: Based on the data, it's not there.

DR. MARLENA FEJZO: We found no evidence to support HCG and we found very high association with GDF15. We found two separate unlinked variants around the GDF15 gene and then we also found a variant associated in the brainstem restricted receptor of GDF15, which is called G-fral, that is only in the vomiting center of the brain.

DR. ELLIOT BERLIN, DC: Wow. In terms of symptomatically and also recurrence, so all the cases sound really severe in different ways, but it's severe to the point of fetal and maternal death. And then sometimes the symptoms do go away eventually, right? Like Ariadne, your symptoms went away at either 20 weeks or 24 weeks or did they just lessen?

DR. ARIELLE MITTON: Well, yeah, they lessened. I wouldn't say that I was out there eating everything, but I'm out there, you know, 24 weeks, tolerating one food, kind of like how I was when I was nauseous with my first pregnancy in the beginning. That one thing, I could eat that slice of pizza, but that's it, nothing else.

DR. ELLIOT BERLIN, DC: And then that went away at birth for you?

DR. ARIELLE MITTON: Yes.

DR. ELLIOT BERLIN, DC: Yeah.

DR. ARIELLE MITTON: Like instantly?

DR. ELLIOT BERLIN, DC: Yes, I think so. Pretty instant. When I talked to Amy on the podcast, she said she had a C-section, she said literally the minute the baby was out, it was gone.

DR. MARLENA FEJZO: Most people say that.

DR. AIMEE BRECHT-DOSCHER: About 12 hours for me. I remember that moment. That was the best graham crackers and water I've ever had in my life.

DR. ARIELLE MITTON: Yeah, and you don't have to think, is that going to stay down?

DR. AIMEE BRECHT-DOSCHER: You know, it's 2 a.m. in the hospital, it's the only thing that's around because I hadn't gotten any food trays. And then, oh, so good.

DR. ELLIOT BERLIN, DC: So it's sort of in my mind based on what you're saying with the hormone, it just seems like it would be like when the placenta comes out.

DR. MARLENA FEJZO: Exactly.

DR. ELLIOT BERLIN, DC: Maybe. Maybe. Okay. Usually those things come pretty close together. C-sections are pretty instantaneous, one with the other. If somebody has it one time, are they going to expect to have it again?

DR. MARLENA FEJZO: So we've done a recurrence risk study and we asked women who had had it in their first pregnancy, we contacted them later and asked them if they had it again and we found an 80% recurrence risk. That's the highest rate reported and other studies have found less, so it ranges probably between 20% to 80% recurrence and a lot of that might be how you define it. So we had women self-reporting that they had a recurrence versus other studies where they were looking at medical records or repeat... hospitalization, so not all those 80 percent of the women in our study were hospitalized in both pregnancies, so in those other studies they might have not been considered a recurrence even though...

DR. ARIELLE MITTON: Right, because maybe the second pregnancy they had home health instead of inpatient. Exactly.

DR. AIMEE BRECHT-DOSCHER: And if you think about it, in the second pregnancy they most likely have a baby at home that they don't want to leave, so they probably fought hospitalization, tooth and nail to stay home with their kid.

DR. ELLIOT BERLIN, DC: That's interesting. Exactly.

DR. AIMEE BRECHT-DOSCHER: So it could be even higher.

DR. ARIELLE MITTON: 80 percent.

DR. MARLENA FEJZO: 80 percent.

DR. ELLIOT BERLIN, DC: Oh, that's the high number.

DR. MARLENA FEJZO: Yeah, because that was self-reported and not based on medical records.

DR. ELLIOT BERLIN, DC: Who actually showed up back at the hospital. Right. Okay. Is there anything else you want to add on terms of what we understand about the causes of HG? Because on our next segment we're going to go into what we know about managing and treating.

DR. MARLENA FEJZO: I do have one more thing because a lot of people say, I don't have HG in my I'm the first one, so that means it's not genetic in me and that's a kind of misunderstanding about genetics. So first of all, it can come from your father's side and obviously your father can't get pregnant. So half the time, half the people might have inherited genes from their father that predispose them, but also it may be a combination of genes. So you may be the only one that inherited that particular combination. So many people have no family history. I have no family history, but that doesn't mean I don't carry the genes.

DR. ELLIOT BERLIN, DC: Because also you said it was like a 17% more likely.

DR. MARLENA FEJZO: 17 times more likely, yeah. So that's another thing. So nausea and vomiting is predicted from classic twin studies to be 70% heritable and the level of nausea and vomiting that you have is predicted to be 50% heritable. So even if you have the genes, there's something else in the environment that might increase your severity of your disease. And that environmental thing could be something as simple as whether you have a mother around that can come and cook for you during that time and change your baby's diaper or decrease the things around you that might be causing you to have worse symptoms and lessening the trigger so that you don't end up in the hospital again.

DR. MARLENA FEJZO: So you might not be losing as much weight, even if you have the genes, if you have someone around that's taking care of you.

DR. ELLIOT BERLIN, DC: A different level of support.

DR. MARLENA FEJZO: Right.

DR. ELLIOT BERLIN, DC: Well, that kind of goes into managing and treating, which we're going to get to in just a second. Don't go anywhere. We'll be right back. Welcome back to the Informed Pregnancy Podcast. We're talking about hyperemesis. Now that we know a little bit more about what it's like to have hyperemesis, signs to look for, what some of the symptoms are going to be like through the pregnancy or what they can be like, and who's more likely to get it. Let's talk about what we know about management and treatment. Where do we start?

DR. AIMEE BRECHT-DOSCHER: Well, ideally, we're starting with people with mild symptoms. And then we might help them get the support that we were talking about at the end of the last segment and have them be able to rest and have a discussion with their families so that they can have somebody cook food for them and change the baby's diaper. And maybe then they won't develop and get HG. Maybe we can do some things to keep them from getting HG. And then once they have HG, well, then the real treatment is medication and hydration and nutrition if needed. The medications that we use are generally the same kind of anti-nausea medications that they treat patients who have had chemotherapy. I actually was diagnosed with breast cancer two years ago.

DR. AIMEE BRECHT-DOSCHER: So I had highly emetogenic chemotherapy for my breast cancer. And I have to say it was 10 times easier than hyperemesis. And I used some newer medications that

don't have as good of a safety history in pregnancy.

DR. ELLIOT BERLIN, DC: You used for the breast treatment?

DR. AIMEE BRECHT-DOSCHER: For the breast cancer and some of the same medications that I had used when I was pregnant. But they worked so much better for the chemotherapy than for the HG.

DR. ELLIOT BERLIN, DC: Oh, so you were taking nausea medications and it didn't really help you at all, it sounds like.

DR. AIMEE BRECHT-DOSCHER: I mean, they helped a small amount. If I hadn't taken them, it would have been worse. And there were a few times where I was like, these must not be helping. So I'll try stopping this. And that was a disaster. So they were helping, but I was still 100% miserable. Every waking minute of every day of my entire pregnancy.

DR. ELLIOT BERLIN, DC: I mean, that could be a big distinction. Does that mean when you slapped, you got a little relief from?

DR. AIMEE BRECHT-DOSCHER: Yeah. I would look forward to the sleep, that's for sure.

DR. ARIELLE MITTON: Because when you're sleeping, you can't be vomiting.

DR. ELLIOT BERLIN, DC: Not yes, right? Yeah, but you can still be nauseous.

DR. AIMEE BRECHT-DOSCHER: I would dream about these giant buffet meals.

DR. ARIELLE MITTON: Me too.

DR. AIMEE BRECHT-DOSCHER: I could never fill, like the plate was always too small. And everything looked so good, and I never got to the end of the buffet, and I never got to eat the food in my dreams.

DR. ARIELLE MITTON: I think that's how we fed ourselves through our dreams.

DR. ELLIOT BERLIN, DC: By the way, if that was the only symptom, then I have hyperamnesia. I have a recurring dream. Wow, so when you talk about treating early, it sounds like on the GDF-15 concept that the downward spiral idea, that if you could somehow prevent the malnutrition from kicking in or limit it, then maybe it doesn't escalate and escalate on top of itself.

DR. MARLENA FEJZO: Possibly. I mean, it's all theoretical at this point.

DR. ELLIOT BERLIN, DC: It's all kind of new, but I mean, that's a potential. Do you see it when you treat it with your patients?

DR. AIMEE BRECHT-DOSCHER: Definitely. Anecdotally, that happens with patients, and they'll get into this spiral. And you can give them medications, and they don't work. And then you admit them to the hospital. You put an IV in. You give them hydration. You give them medications for a few days, and then they feel better. And they go home, and then they'll do well for a while. And then something might trigger it again, and you're back into that same spiral, that same circle.

DR. ELLIOT BERLIN, DC: All through the pregnancy.

DR. AIMEE BRECHT-DOSCHER: All through the pregnancy.

DR. ARIELLE MITTON: The only thing I have to say from personal experience here is because I had it, and then I knew, and I'm a physician myself, I was really aggressive. And I said, from my very first positive pregnancy test before I had nausea, I'm going to just get the Zofram prescription, just start it, start IV fluids right away. And I was really aggressive about doing IV fluids like two or three times a day, and I felt worse.

DR. AIMEE BRECHT-DOSCHER: What I was just going to go to was, sometimes that doesn't work.

DR. ELLIOT BERLIN, DC: Sometimes it sounds like.

DR. AIMEE BRECHT-DOSCHER: Or I think it probably would have been even worse if she hadn't done that.

DR. ARIELLE MITTON: Maybe that's why my two pregnancies were similar instead of much worse.

DR. AIMEE BRECHT-DOSCHER: It probably would have been worse had she not done that, or at least some of that thing. And we don't know which of those things are really the things that we should be doing early. Certainly letting you take off work, rest, get help, try and stay hydrated, those are things we definitely need to do early.

DR. ARIELLE MITTON: And I wanted to mention here just for comparison. So like nausea vomiting, that's not hyperemesis. Usually for those patients, they can do the ginger candies and they can do the saltine crackers and they can do unisom, they can do vitamin B6, these things. But for hyperemesis patients, these standard protocols of nausea vomiting that you'll hear from the other moms at the play park are not.

DR. ELLIOT BERLIN, DC: Home remedies.

DR. ARIELLE MITTON: They're not working.

DR. ELLIOT BERLIN, DC: Yeah, and then even it sounds like sometimes the prescription drugs aren't working. The heavy anti-nausea prescriptions.

DR. MARLENA FEJZO: We did a study on Zofran and it was only in about 50% of patients effective. Oh wow.

DR. ELLIOT BERLIN, DC: Is there other drugs too besides Zofran?

DR. ARIELLE MITTON: I wanted to just have Marlene, if she could mention here about Zofran because I know there's a lot of fear from pregnant women that are not medical professionals about taking Zofran when they're pregnant. And I know that there's a study from UCLA in 2015 that used that fear, at least for myself when I read it. Do you mind mentioning about that?

DR. MARLENA FEJZO: Yeah, so I've been collecting data on women who've been using Zofran for that purpose to see if it's safe and effective. And so like I said, we found that a little over 50% of

women said that it was effective and helping them at least stop or lessen the vomiting, not necessarily as much the nausea, but we also found in comparing women who used Zofran or on Dancitron compared to women who also had hyperemesis and didn't use on Dancitron. And then we had a second control group that was friend controls that had normal pregnancies and we looked at all their outcomes and we found no evidence to support an increased risk of birth defects for using on Dancitron. And we had about a thousand exposures in that study,

DR. MARLENA FEJZO: a little over a thousand exposures. So I know there's been many lawsuits and I've heard, I can't believe it's this high, but I've read that as many as 20% of women in the United States are taking on Dancitron now during pregnancy for nausea and vomiting. So I mean, obviously some babies are gonna be born with birth defects.

DR. ARIELLE MITTON: Even if they didn't have the Zofran exposure.

DR. MARLENA FEJZO: Yeah, so there are a lot of lawsuits and people are worried about it, but.

DR. ELLIOT BERLIN, DC: Lawsuits meaning saying my baby has birth defects because I took this medication.

DR. MARLENA FEJZO: Exactly, because 20% of women are taking it

DR. ELLIOT BERLIN, DC: but so far your research that you have so far doesn't really show an increase.

DR. MARLENA FEJZO: Yeah, and other research also. There have been many studies now, and some show a very slight possible increase. And it's so small, I would expect that the risk to your baby is worse if you don't treat it.

DR. ELLIOT BERLIN, DC: I mean, that's what we're talking about. I mean, ultimately, we're talking about babies dying. And so I'm not sure what kind of birth defects we're looking at in that small increase in birth defect, but it's always a risk-benefit analysis. Exactly.

DR. AIMEE BRECHT-DOSCHER: Everything you do during pregnancy has that risk. Everything you do in life has that risk-benefit analysis. And every time I start a medication in pregnancy, I have that discussion. And it's very clear what the risks are of having malnutrition and dehydration during pregnancy, which is what happens to women with HG if they don't take medications. And so those risks are very well-documented, and they're quite significant. And the other thing we didn't talk about yet is the risk of termination. A lot of moms turn to terminate their pregnancy because they don't think they can survive or because they're so miserable, they just don't know how to get through it. And we've found numbers like one in three women have lost their pregnancy.

DR. MARLENA FEJZO: Well, we have over 100 women in my study have had a termination due to HG. And it's gone down. It was 15% of women who had terminated at least one pregnancy due to HG. And now it's gone down to about 6%.

DR. ARIELLE MITTON: And I think it's important to normalize and not stigmatize this. I mean, I myself had thoughts, and I said out loud to my family, I want to terminate.

DR. AIMEE BRECHT-DOSCHER: And these are wanted pregnancies. Wanted, yes. IVF pregnancies. People who went through infertility treatments, incredibly expensive infertility treatments, and then finally got pregnant and ended up terminating their pregnancy because they didn't think they would be able to survive.

DR. MARLENA FEJZO: And that feeling like you're dying is a real feeling because this same GDF-15 that I believe causes HG, it also causes cachexia, which is that end stage where you have weight loss and muscle wasting, and you eventually die from the cachexia. And it's caused by GDF-15.

DR. ARIELLE MITTON: So those women in cancer patients,

DR. MARLENA FEJZO: they feel like they're dying. Women with HG feel like they're dying. And there have been deaths in the United States and the UK in this century due to HG. And reports of Wernicke's encephalopathy, which is brain damage caused by a vitamin B1 or thymine deficiency, secondary to HG, are on the rise. So another important thing that I would like to get across is if doctors hear this or patients hear this, if they are not able to tolerate their vitamins, because a lot of women with HG vomit up their prenatal vitamins or just stop taking them all together, they're not able to take thymine-rich foods, to eat thymine-rich foods like meat and oranges, I think, and eggs. Then they need to get a thymine shot or.

DR. ARIELLE MITTON: And this is important because I think, you know, women are coming to urgent care and to ER with hyperemesis, maybe haven't been able to eat, like, you know, having our experience of not being able to eat. And then, you know, we're supposed to be giving, if you look at the algorithm for treating, when you give fluids, you're supposed to be giving D5 normal saline or D5 lactate ringer instead of just straight normal saline. So what that means, you know, in layman's terms, is that there's some glucose, there's some sugar. Sugar and glucose. Dextrose it is, but people know, you know, sugar and glucose more commonly. So there's a form of sugar in the fluids. So if the doctor's following the protocol and giving the correct fluids,

DR. ARIELLE MITTON: well, then there's a risk, because if you give glucose to a patient who is vitamin B1 or thymine deficient, the glucose will then consume the thymine stores in the body, the very few thymine stores that are left. And that's when you get what, you know, she mentioned Wernicke's encephalopathy, which is a triad of not being able to move your eyes, not being able to walk straight, and the memory loss can be permanent.

DR. ELLIOT BERLIN, DC: So you're saying B1 is thymine.

DR. ARIELLE MITTON: B1 is thymine, it's the same thing.

DR. ELLIOT BERLIN, DC: So if you can't get it nutritionally, then to get injections of it?

DR. ARIELLE MITTON: Right, so for women who are not eating and not able to take their prenatals, they can easily get deficient in it. And you can get it through your IV fluids. I mean, the doctor can easily add liquid, vitamin B1 or thymine, to the IV fluids that you're getting, yeah.

DR. ELLIOT BERLIN, DC: So many questions going off in my head right now. First of all, if somebody had HG and then they wanna get pregnant again, so oftentimes people try to lose weight before they get pregnant, would it make any sense to try to put on extra weight?

DR. AIMEE BRECHT-DOSCHER: So both being overweight and underweight should have a higher risk of HG. So I usually, and I do preconception visits for this, and I have recommended to people that they are on the higher end of their normal body weight.

DR. ELLIOT BERLIN, DC: Okay, not to overdo it.

DR. AIMEE BRECHT-DOSCHER: But the malnutrition happens no matter what the weight loss is. And so sometimes we see. women who are completely ignored because they start off overweight and they lose like 80 pounds during pregnancy and people keep telling them oh well it's good because you had extra to lose but that doesn't mean that they aren't gonna have the same nutritional complications nutritional deficiencies that the baby isn't gonna have complications because of nutritional deficiencies and vitamin deficiencies and so weight loss is not good during pregnancy no matter how much

DR. ARIELLE MITTON: weight it is. No matter where you started. I don't think putting on weight can prevent HG for someone who's going to have it. No. Yeah so I wouldn't think it

DR. ELLIOT BERLIN, DC: would prevent it the question was that will it to any extent lessen the loss of nutrition but it sounds like not really I mean like you said get to the higher end of your healthy weight but don't become obese over it. I have a patient who just finished a pregnancy with HG and now maybe three months ago and I told her we're doing this episode and she's like okay you have to ask them about after I have the baby because my body feels like my bones are weak my teeth are shot there's like nothing left is that

DR. AIMEE BRECHT-DOSCHER: common? Generally we say two days of recovery for every day of being sick so it can take a long time to recover from an HG pregnancy. So I

DR. ARIELLE MITTON: mean if you think physically of you know the weight loss your visual efficiencies and just also just lying still in bed think about the muscle atrophy that people are having. So you know to build up muscle is much harder than it is to lose muscle so you know first of all you know tell your patient to take her time to just relax and not to worry about it right away you know take time to bond with her baby and eat right for herself but eventually when she is able to you know start walking and she take it slowly walk first before she runs right don't go straight to the

DR. ELLIOT BERLIN, DC: gym. I mean I don't know if you guys have heard of lactation or if you know how having had HG effects breast milk but this company called Lactation Lab Dr. Stephanie Canale with her second baby she was making milk and the baby was eating but not thriving. She's an amazing doctor. Yeah she's incredible and so she was like it was killing her not to know why is my baby getting milk but not thriving and there was no real lab to be able to test it so she created it and I just gave a kit to this person who had HG just were curious what's in her milk but do you know if the malnutrition during an HG pregnancy has an effect on the milk? Well I don't know about

DR. MARLENA FEJZO: the milk actually that's a really interesting question and I don't think any studies have been done on that but I do know that we did a study on post-traumatic stress disorder following HG pregnancies and about 18 percent of women would have full criteria post-traumatic stress disorder after an HG pregnancy especially when the symptoms lasted until term obviously it's very stressful to not be able to eat and the horrible nausea throughout and the isolation and also the decision to have to take these medications of unknown safety and efficacy is at a time when you know you're supposed to eat healthy and not take poison you know so it's a very stressful time for women and so a lot of

DR. MARLENA FEJZO: women have PTSD after an HG pregnancy and those women are much more likely

DR. ELLIOT BERLIN, DC: to have difficulty breastfeeding too. That's interesting sometimes people come in postnatally for acupuncture and something that we noticed in our office is that they sometimes come in because they're having trouble with milk sufficiency and separately sometimes come in because they're just feeling very anxious and I think one day we noticed a correlation that when he's treating anxiety the milk production normals out even more so than when doing points and things for boosting milk production so makes a lot of sense. As we're winding down are there any final

DR. AIMEE BRECHT-DOSCHER: thoughts that you have? You have one other thing that I think was really helpful for me and I knew what HG was was that I found support online from other women who had gone through HG and a lot of those women are still my friends now and they really helped me through that pregnancy and we definitely encourage people to get support information the her foundation that we talked about earlier has a

DR. ELLIOT BERLIN, DC: website that is helpher.org H-E-L-P-H-E-R.org

DR. AIMEE BRECHT-DOSCHER: Exactly and I think it's really helpful and then also to make sure that you have an advocate with you at your pregnancy visits to help explain things because when you're just sick and miserable you can't explain to that care provider that

DR. ELLIOT BERLIN, DC: that you're trying to get help from. And then you already mentioned the

DR. MARLENA FEJZO: app? Yes we have the HG care app and I think that any woman who is unsure whether they have HG or not any woman who's taking any kind of medication already for nausea and vomiting should download the app if they have an iPhone. Unfortunately, it's only available right now for iPhone. It's free. There's no advertising. The information on the app stays on your phone. No one's seeing it, but you have the opportunity on the share page to share the report with your doctor and it gives you alerts and helps you to know when to go in and get help.

DR. ELLIOT BERLIN, DC: Perfect. What I hope for, there's a lot of things that I hope for, but from people listening, what I hope for is that number one, if you're hearing these things and you thought you were just not handling your nausea and vomiting well, you might realize that you have something worse that you go and get help quicker. Number two is anybody listening who has a partner who's struggling with nausea and vomiting in general, but especially if you start to hear some of the things that we're talking about and light bulbs go off in your head that you give them the support that they need and help them get help faster. Co-workers, employers, just people to become more aware that

plain old nausea and vomiting can really be

DR. ELLIOT BERLIN, DC: very difficult to live with and to work with and I think that especially because people don't even reveal that they're pregnant in the first trimester, they sometimes struggle through that alone, but this is so much more than that. It's not the same. It's really suffering and surviving how people don't even think that they are going to live through it. To just get that in your mind and to realize that any chance you have to help and support could make a big difference. And then finally, that you talk about it or past the day and age where this is something that is psychological. It's not. It's physiological. We're past the day and age where this is something that makes you a weaker person.

DR. ELLIOT BERLIN, DC: It's not. And with these kinds of conditions, the more that we talk about them and the more that we come together as a community through especially all the different apps and social media that we have, we can really support each other and hopefully continue the work that you guys are doing to find the sources and what's real and what's not real and the treatments and the cures that will help in the future. People not have to suffer with this disease anymore, this condition anymore. So once again, I keep saying, but it's true, in the bottom of my heart, so grateful you guys came from not so close. You shared your personal stories and your life work that you're doing. You've been busy

DR. ELLIOT BERLIN, DC: with this work and it's paying off. You're making such incredible progress. And so I'm deeply grateful for you to join us. Finally, once again, I'll give the URL helpher.org. There's also a Facebook page. And also a Facebook page and an Instagram page, which I think how we all got connected in the first place. At home, if you have any questions, feel free to shoot us an email to info at informedpregnancy.com. I got a

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