March of Dimes

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IN THIS EPISODE

Dr. Rahul Gupta, Senior Vice President and Chief Medical and Health Officer at March of Dimes, joins Dr. Elliot Berlin, DC to talk about birth defects — what they are, how often they happen, and how much of the risk can be reduced before pregnancy even begins. From folic acid and vaccines to weight, blood pressure, smoking and alcohol, he lays out the preparation that gives mothers and babies the healthiest possible start, and explains why March of Dimes treats preterm birth and maternal health as one connected crisis.

About this transcript: *This transcript was created with AI-assisted transcription and reviewed by our team. It may not be 100% accurate — names, medical terms, and phrasing can occasionally be mis-transcribed. For exact wording, please listen to the episode audio.*

DR. ELLIOT BERLIN, DC: Welcome to the informed pregnancy and parenting podcast I'm your host dr. Elliot Berlin in this important episode sponsored by March of dimes We will learn about birth defects and to the extent possible how to minimize or prevent them March of dimes is an organization which leads the fight for the health of all moms and babies by supporting research and Providing education and advocacy so that every baby can have the best possible start My guest today is a medical doctor who gained national recognition for his work as public health commissioner for west virginia He has led that state's opioid crisis response and launched a number of pioneering public health initiatives Such as the birth score program to identify high risk infants

DR. ELLIOT BERLIN, DC: He's been named senior vice president and chief medical and health officer at march of dimes Ian his wife who is also a physician have identical twin sons studying at yale university. Dr Rahul gupta welcome to the podcast. Thank you for having me dr I'm excited to learn from you. I'm always a an advocate for prevention of things that can be avoided You have an extensive resume in public health. What drew you to that type of work?

DR. RAHUL GUPTA: I think the most important piece for me was to be able to have impact both at a community and individual level as we go to medical school as physicians and learn that but also be able to translate that into impact from a population health aspect what that means to me is How can we also transform the learning we go through? To really figure out how to then have look at larger

problems than individual patients And then develop and talk about how to change those things from a population health level That's where we've had the most progress both within our nation as well as across the world

DR. ELLIOT BERLIN, DC: And how long have you been with march of dimes?

DR. RAHUL GUPTA: Been with march dimes a little over a year at this point and

DR. ELLIOT BERLIN, DC: Can you tell me more about march of dimes in general? What is the organization about?

DR. RAHUL GUPTA: Yeah, and one of the things that drew me was actually obviously march of dimes started One of the very few if not the only organization that was initially founded by a united states president You know way back over 80 years ago by fdr in response to really developing Private level funding for a disease that was killing hundreds of thousands of people Every year across the globe called polio So it really began about collecting money from everyday people From neighborhood to neighborhood street to street knocking on the doors and collecting those dimes that were could be mailed in How and turned into actual research for the vaccine for polio? And we funded dr. Jonas salk ended up fast forward

DR. RAHUL GUPTA: Literally eliminating polio off the face of the earth except for just a handful of cases that happened last year, for example And then over the years march dimes has focused its research on birth defects And we obviously are the ones that are not only helped Start and develop the concept of newborn screening that hopefully we'll talk a little bit more about today how that helps Catch birth defects early in the united States, but also then folic acid. Folic acid is supplement for pregnancy that actually has been credited now with virtually eliminating spina bifida or neural tube defects, the supplementation of which during pregnancy in this country. And as we move forward we started to then focus, we do not take

DR. RAHUL GUPTA: easy problems to solve. So the toughest challenges across this country but across the world, from polio to then we focus our attention on birth defects and then on preterm birth. And for the last, you know, a couple of decades we've been focused on a lot of research, both basic science as well as translation, on figuring out how to solve this crisis of preterm birth to the certainty United States one in ten babies is being born preterm. And just the last few years we have realized there's two crises, not one, and they're actually one overall crisis. But we must start talking about them as one crisis, not two. Not to complicate it any further, the crisis of maternal mortality and morbidity. So we also have, you know, we live in one of the

DR. RAHUL GUPTA: most dangerous places in the developed world to give birth to a baby in terms of moms near death and that sometimes experiences that translate into a fatal case. Because of that we have really a focus or attention into looking at mom and baby as one unit, not two, and are really leading that fight for the health of all moms and babies to ensure that we talk about preterm birth and maternal mortality and morbidity. We're really talking about one crisis that is happening, whether it's the disparities that exist within that, the racial ethnic and other social disparities, as well as just the challenges of finding out how to have develop or treatments, discoveries, as well as better data gathering and

DR. RAHUL GUPTA: awareness of the public about this particular crisis.

DR. ELLIOT BERLIN, DC: Wow. So first of all, I don't know anybody who as a human being can't get behind the concept of giving mothers and babies the best possible healthiest start. So it's incredible work that you're doing. And that was a lot that you just identified in terms of birth defects, preterm labor and maternal morbidity and mortality in the United States in particular. Obviously, everybody wants to decrease to the extent possible all of those things. When you say also preterm labor, just by way of definition, do you mean before 37 weeks?

DR. RAHUL GUPTA: Yes, that's very correct. And we believe that is a part of maternal health overall.

DR. ELLIOT BERLIN, DC: Yeah, for sure. All right. So let's talk initially about birth defects. What are birth defects and what causes them?

DR. RAHUL GUPTA: So this is something that's really relevant and important. We know that when a woman gets pregnant, it is sometimes the first trimester, but all the way up to the delivery that the baby is developing itself. And how these organs develop the baby's body parts, literally, how they function, and how it has a metabolic processes that are turning all of the food that is going in into energy. All of these aspects, when there are problems with that, and that results in what we call birth defects. So majority of those can happen, especially in the first trimester, but they can also continue to happen in later trimesters because we know some things like the lining of the brain of the baby, it continues to

DR. RAHUL GUPTA: develop all the way up to the third trimester. So birth defects basically could be structural in nature. We commonly talk about the common type of defect like heart defects. And they can be diagnosed sometimes with echocardiogram and other tests. But there's other that are very visible like cleft palate that most folks have seen probably or club foot. And then others could still be what we call metabolic. Metabolic defects are those that prevent a proper breakdown of food into energy, as a very simple example. And those are not very easily diagnosed. So overall, some of these birth defects can be diagnosed during pregnancy. And others can be diagnosed right around birth or after birth. But that's what basically when we talk about

DR. RAHUL GUPTA: birth defects, that's what encompasses.

DR. ELLIOT BERLIN, DC: Got you. Obviously, prevention would be the number one goal. And we'll talk about that in just a moment. But once birth defects are noted, if they're observed during the pregnancy, are there things once you see them that can be done during pregnancy by way of treatment or prevention from them developing further?

DR. RAHUL GUPTA: Absolutely. So just from a number standpoint, we know that one in every 33 babies born in the United States each year suffer some type of birth defects. That basically means that every four and a half minutes Every four and a half minutes in this country, a baby is born with a birth defect. So that's the sort of the breadth of the problem. Now the really work starts, the treatment is really prevention first. So it's really important because of that reason to be visiting your doctor. And I will start this by saying, it's very important for us to make sure that we're ready for pregnancy before we get pregnancy, because still in the United States, we have too many unintentional pregnancies

because when our body is ready, whether it's working

DR. RAHUL GUPTA: on some of the issues like diabetes, high blood pressure, or vitamin supplementation prior to becoming pregnant and conceiving, it puts, as well as vaccinations, it puts that next life in the best possible situation and that it can be in order to prevent those birth defects to begin with. So the real preparation starts before getting pregnant. Of course, we must also understand that they're very complex. Some of those causes we'll talk about today, but some others are very difficult to elicit what happened and what caused it. But generally speaking, as we talk about what can be treated and prevented is to understand that there's a complexity of genes, environmental factors, as well as

DR. RAHUL GUPTA: personal nutrition and other habits and a combination of these three or four different factors could the interplay of that is what could lead to potential birth defects.

DR. ELLIOT BERLIN, DC: And so you mentioned several and let's go through them one by one. But in the global picture, are these the same things that are going to help with preterm labor and maternal morbidity and mortality as well?

DR. RAHUL GUPTA: Yes, I think that's a great sort of linkages, which is when you're taking care of yourself better. We know that today in the United States, we have one of the lowest fertility rates in the nation has seen in 32 years. We also know that women are getting pregnant later in life. And because of that, there's also these challenges of ill health in terms of high blood pressure, diabetes, obesity. So addressing that ahead of time and planning your pregnancy helps not only with birth defects, but also in terms of preterm labor, prematurity, as well as having better outcomes for your own health. Because as we always say, it does not make sense for a baby to be there and a mom not

DR. RAHUL GUPTA: to be there as much as it doesn't make sense for a baby not to be there. So it's a very much a linkages. But your point is right on target, which is some of these factors we'll talk about today have an impact on the mother, not just to help the baby become most healthy, but also for her herself to avoid some of the near death and other complications of pregnancy.

DR. ELLIOT BERLIN, DC: Got you. Well, let's jump in right with the first preventable factor. You mentioned that it's ideally even before pregnancy, you would want to start seeing your provider, your pregnancy medical provider, so a doctor or midwife. How far before the pregnancy would you recommend to see the pregnancy provider?

DR. RAHUL GUPTA: So there's really no good substitute for prevention. We want to make sure that you are preparing to get pregnant, which means that if you think you're overweight or obese, you want to get to a healthy, acceptable weight. And how much time will that would be up to you to decide, but it's important to make that decision. So you might need help in controlling your blood pressure or diabetes as a consequence of that overweight that may happen. So it's important to get in with the provider to ensure that those things are happening.

DR. ELLIOT BERLIN, DC: Do you mean to say that people who don't have high blood pressure or diabetes, but have excess weight or obesity, then become a greater risk for those diseases during pregnancy?

DR. RAHUL GUPTA: Absolutely. We should almost think of pregnancy as a stress test for the body. And we have known for a long time when you have something we call gestational diabetes and as well as gestational hypertension, which can turn into pre-eclampsia. We also know that those women are more likely to end up becoming diabetic long-term. So it's a stress test for the body. So it's very important to make sure you're in the best shape before you get into the stress test in that sense. So those factors are very important to make sure you have control over them. So care with your provider of your choosing to make sure that you are taking the best care of your body is important. Similarly, things like alcohol consumption and smoking are also very important.

DR. RAHUL GUPTA: So we know these are some of the factors that are definitely associated with poor outcomes, not only birth defects, but a number of poor outcomes of pregnancy. So you want to make sure you're not consuming alcohol as you're trying to become pregnant and you're not having both firsthand. well as secondhand smoke inhalation. You know, you may be going to an area where there is secondhand smoke that actually has been documented to affect you. Same goes with illicit drugs, street drugs.

DR. ELLIOT BERLIN, DC: Okay. We're going to take a quick commercial break. We will be right back with Dr. Rahul Gupta. That's helixsleep.com slash doctor berlin for up to 30% off. Welcome back to the informed pregnancy podcast. We are talking about getting off to the right start in your pregnancy for a healthy pregnancy and birth for both mothers and babies. We're talking with Dr. Roel Gupta. So you were just saying right before the break, smoking, alcohol, street drugs, those things that ideally before pregnancy, but certainly as soon as you recognize that you're pregnant, the sooner you can get off those toxicities, the better off it will be for mother and baby. Yes. And then there's some other key steps that are recommended by March of Dimes

DR. ELLIOT BERLIN, DC: and CDC. You mentioned earlier about taking folic acid. Yes. What is folic acid and what role does that play in preventing birth defects? So folic acid is a type of a B vitamin. You know,

DR. RAHUL GUPTA: we all know our vitamins and it's a B for baby vitamin. If a woman has enough folic acid, we're really talking about about 400 micrograms of folic acid every day. We know that this is clearly science supports it. Taking that amount of everyday consumption will allow you to prevent major birth defects regarding the baby's brain and the spine. Now, the good news is that those are easily available over the counter as well as some of the fortified flowers like corn masa has the folic acid. You have to make sure that there's a label that says this is about 100% of the total daily dose, which is 400 micrograms that's included. But it's important to start folic acid before you're even getting pregnant in order to make sure you have

DR. RAHUL GUPTA: full body stores of that and prepared for the pregnancy. Ideally before getting pregnant. Exactly. Also, I just want to mention that from a vaccination standpoint, you know, we know a disease called rubella as an example. Rubella is a contagious disease that is directly related to some of the birth defects. So there's a vaccine called mumps, measles, and rubella vaccine or MMR. Now, the challenge with MMR is that you really cannot take it during pregnancy. You know, some of the components of life in nature. So it's a safe vaccine. It's highly efficacious and recommended, but you've got to make sure that you're up to date with your vaccines about a month prior to getting

pregnant.

DR. RAHUL GUPTA: So there are some vaccines that you want to make sure that you have up to date as you're planning to get pregnant, as well as making sure that you don't have some of the infections of sexually transmitted diseases that you get screened for that are also linked to some of the birth defects.

DR. ELLIOT BERLIN, DC: If you have sexually transmitted diseases, what can you do about it?

DR. RAHUL GUPTA: There are treatments, clearly. That's one area that we've done well as a nation. However, it's still important to make sure that you can get screened and treated for those diseases before you are getting pregnant.

DR. ELLIOT BERLIN, DC: Regarding the folic acid, in the opening segment, you talked about spina bifida and how that is linked to not having enough folic acid, and that's where the bones of the spine don't really close all together, so leaving part of the spinal cord exposed. Now that we understand the link and made the recommendation for folate and people are more aware of it, has the incidence of those types of defect gone down?

DR. RAHUL GUPTA: Absolutely. We actually are monitoring, along with CDC, neural tube defects across the country, and I can tell you, each year in the United States, because of folic acid fortification, about 1,300 babies are born healthy. So we've had that direct impact in this country, and we believe that just that translates to about $400 to $600 million saved each year because of that work. And we're encouraging other nations and other programs across the globe to actually follow this best practice.

DR. ELLIOT BERLIN, DC: Just one example of how having information and early intervention, something as simple as a B vitamin, can make a big difference. There are foods also that are high in folic acid. Would it be okay for somebody to try to get their folate from food sources, like legumes and asparagus?

DR. RAHUL GUPTA: Yes, absolutely. I think especially foods that are leafy green vegetables, foods and beans have quite a good amount of folate in them, but we still want you to take that supplement of 400 micrograms of folic acid, just because there's no harm in being careful for first one thing. And secondly, sometimes we are not all absorbing everything that we're eating. So that's why the fortification of corn mass, as an example, is a really good option as well.

DR. ELLIOT BERLIN, DC: So multiple avenues for getting good, healthy folate in the system. All right, you mentioned vaccines, and it's a topic these days that gets people fired up. And there's a lot of information and some misinformation about vaccines and strong feelings about them. And you also mentioned there are some vaccines you can get once you're already pregnant. So if those are vaccines that people want to have, and rubella is something that if you catch it during pregnancy, does cross over the placenta. Is that correct?

DR. RAHUL GUPTA: Correct. And let me just start by saying this, you know, I didn't say a lot of why I'm at March of Dimes, but back many, many months ago in 1994, I helped launch the first pulse polio vaccination in New Delhi and in India. And in one day, we vaccinated over two million babies for polio.

That process continued. And 20 years later, that country of one point three billion people was declared polio free. The vaccines are one of the greatest achievements of public health. So it was a sort of a close circle for me to be able to work in an organization that has led the way and the fight for ensuring that we can literally eliminate a particular disease off the face of the earth.

DR. RAHUL GUPTA: What is really sad today is we still have outbreaks of preventable diseases like whooping cough or Pertussis, as it's called, in a newborn, because we know like seven out of 10 deaths that are occurring for whooping cough are among babies younger than two months old. So the challenge is the vaccine is very, very effective. Yet we don't have a coverage. And the strategy is really to cocoon the baby, meaning all of the caregivers, whether it's siblings, it's grandparents, it's the rest of the family members, including parents, that they are protected because the baby often doesn't develop an immune response to be able to fight these type of diseases at least before six months of age.

DR. RAHUL GUPTA: So it is from a societal standpoint, you know, I always say that how we treat our moms and babies is a barometer to our civilization. And there is no question about making sure that when the baby is not able to protect itself in the early stages, it is our responsibility, both as a society. but also the community to help those parents make sure that everyone is protected with these vaccinations around the baby. And that's why during pregnancy, getting that Tdap, it's called, vaccine to make sure that all of those individuals that are going to be around the baby have protection is critical, as is the flu vaccine, something very common. And flu, we know peaks in February, March, but flu is important. There's no reason for not getting

DR. ELLIOT BERLIN, DC: that protection also while you're pregnant. Yeah. And you know, our platform informed pregnancy, we try to provide information, credible information so people can do their research and make their choices and find support in the choices that they make. And I know that CDC and March of Dimes do recommend those two vaccines while someone's pregnant to get the Tdap and the flu shot. In your mind, are there any people who it would be contraindicated for, or in your mind, are there any potential downsides to the vaccine? And it's just that the upsides outweigh the downsides? So definitely there are tremendous upsides.

DR. RAHUL GUPTA: Of course, we recommend you talking to your provider about specific issues like allergies or product experiences you may have had to make sure that you have the most up-to-date knowledge and making the best choice for yourself. So that's the conversation. There's no substitute for having that conversation with your provider. There are multiple forms of the flu vaccine as an example, and it's very important for you to be comfortable with the form that you want to take for that purpose. Obviously the nasal is not recommended in that time. So it's really critical that you have that conversation because your provider may or may not be initiating that conversation each time. So it's important that you do

DR. RAHUL GUPTA: as a member and someone that has the every intent and every passion to be able to make sure that your baby is safe and fine and is protected.

DR. ELLIOT BERLIN, DC: That makes sense. And I think that always it's good to find a provider that you resonate well with and to have conversations because every individual case is different. For people who are not able to or don't want to get vaccines during pregnancy, are there other things that

they can do by way of protection?

DR. RAHUL GUPTA: Absolutely. As I mentioned about whooping cough, the cocooning. So it's important to make sure that your baby is not exposed to anyone who potentially could have the whooping cough. That's how a baby would acquire the infection in the first place. And the whooping cough is very difficult to just clinically diagnose because it could be a chronic cough. It doesn't come out like tuberculosis and some of the other, you know, presentations. It's hard to do, but to protect your baby is best. Same thing with the flu. And I will say for other infections as well, use common universal precautions like washing your hands, making sure that you're not around people who obviously are having upper respiratory type of infections, which

DR. RAHUL GUPTA: obviously flu is a little bit different, more severe. And so making sure that you are protected during your pregnancy and then making sure your baby is protected from exposure to those types of illnesses, especially if someone's already been diagnosed. Those are also important. And lastly, you know, a few others, which is like if you're traveling, you must make sure that you're talking to your provider about where you're going, because there are very specific recommendations on what to do, including vaccinations and precautions for particular areas of the world, as well as if you are at high risk for hepatitis infections. So that's another area that you need to talk to your provider as well.

DR. ELLIOT BERLIN, DC: Dr. Gupta, you've given us a wealth of information. I know that March of Dimes is on the forefront of trying to prevent birth defects, trying to prevent preterm labor, trying to improve maternal morbidity and mortality in the United States and around the world. And I commend that effort and I applaud that effort and I'm proud to be a part of that effort this year. You can find more information about March of Dimes at marchofdimes.org slash birth defects. And March of Dimes works together with the CDC, the Center for Disease Control and Prevention, which you can find at CDC.gov slash birth defects. And you can join the conversation online by following the hashtag best for you,

DR. ELLIOT BERLIN, DC: best for baby, where the four is the number four, best for you, best for baby on social media. Thanks so much for sharing with us and for being with me.

DR. RAHUL GUPTA: Thank you, Dr. Berlin. I really appreciate it.

DR. ELLIOT BERLIN, DC: And at home, thanks for listening to the Informed Pregnancy podcast. For more pregnancy and parenting related media, visit us online at informedpregnancy.com. I got a whole lot

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