

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/covid-19-frontlines/covid-19-pregnancy-what-do-we-need-to-know/13475/>

ReachMD

www.reachmd.com
info@reachmd.com
(866) 423-7849

COVID-19 & Pregnancy: What Do We Need To Know?

Dr. Chapa:

Over the course of the COVID-19 pandemic, we've learned a lot about this disease's impact on patients, but there are still many things left to learn, specifically about COVID-19 in pregnant women and their babies. Today, one researcher will take us through the impacts of this disease on both fetuses and newborn babies.

Coming to you from the ReachMD studios, this is *COVID-19: On The Frontlines*. I'm Dr. Hector Chapa, and joining me today is Dr. Dani Dumitriu, who's a pediatrician, neuroscientist, and pediatric environmental health scientist at Columbia University in New York.

Dr. Dumitriu, welcome to the program.

Dr. Dumitriu:

Thank you so much for having me,. I'm really excited to talk about our research today.

Dr. Chapa:

So let's begin right with some background, Dr. Dumitriu. What was the objective of your research that looked at COVID-19 infection during pregnancy and the neurodevelopment at six months of age of those children?

Dr. Dumitriu:

Well, so the interesting part about this story is that the objective is not related to what we actually ended up finding. So it's one of those things in science where you're going after something and you find something completely different. To begin with, our COMBO initiative, which is a COVID-19 mother/baby initiative at Columbia University, started in the spring of 2020 really to evaluate any effect of COVID-19 during pregnancy on the future health and well-being of both mom and baby. And so, in this particular study, we were asking, 'Does mom having, an infection with SARS-CoV-2 during pregnancy affect the neurodevelopment of of the baby?'

And, you know, when we started looking at this data, we were incredibly reassured. We saw absolutely no signal in our dataset of the first 255 babies that we acquired this data on, and so we were actually really happy. Dr. Chapa, I have to tell that we were planning to submit that paper as a 'Great news, everybody. There is no effect of COVID during pregnancy on neurodevelopment at 6 months.' And then we realized, well, we have this other dataset from a really excellent control, so we have this historical dataset of 62 infants born at our same medical center in the three years preceding the pandemic and evaluated with the same neurodevelopmental screener, and that's when we found the signal. So, irrespective of maternal infection during pregnancy, we found slightly lower scores on fine motor, gross motor, and social skills at six months in babies born during the pandemic.

Dr. Chapa:

Okay, now, I want to get into that in a little bit more detail because that by itself is a lot to carry, right? Think about how many pregnant women right now in this time or during 2020, 2021, and that's a real fear for their child. So this issue of neurodevelopment is very important. And so I want to talk everybody off the ledge, because when we say, "Wow, there was some impact for neurodevelopment during the pandemic, but maybe not so much for SARS-CoV-2," And you mentioned it already, but I want to go into it into a little bit more granularity. Tell us exactly how this study was designed.

Dr. Dumitriu:

So this particular component of the study focused on a screening tool, the *Ages & Stages Third Edition Questionnaire*, which is a standard tool that we use in pediatric offices, for example, and it was answered by moms. So it's 30 questions that moms answer in terms of their babies' development, and they answered it on an online survey, and then we looked at the average scores of the different groups of babies.

Dr. Chapa:

Basically we've got, three groups—right?—those who delivered during the pandemic with moms infected, those who delivered during the pandemic moms not infected, compared to a historical control. Is that correct?

Dr. Dumitriu:

Correct. Although, we did the analysis in two parts. First, we evaluated if there were any differences for those born during the pandemic, so those with and without the infection exposure and then after that we pooled those two groups together to call that a pandemic-born cohort and then compared to the historical cohort.

Dr. Chapa:

Great study design. Now that we have that, Dr. Dumitriu, tell us now more specifically on granular level the results.

Dr. Dumitriu:

So, in terms of the results, you know, one of the things that I definitely want to stress to your audience is that the differences that we saw were very small differences in the average scores on these various, different dimensions of the ASQ. So there's the fine motor skills, the gross motor skills, the social skills. Those three domains we found some differences in. And then the other really important concept here is that it really was very small, subtle differences in terms of averages. They were highly statistically significant between the groups, but the differences were small.

Dr. Chapa:

Very important. And again, I want to break this up a little bit further. But for those of you that are just tuning in, you're listening to *COVID-19: On The Frontlines* on ReachMD. I'm Dr. Hector Chapa, and I'm speaking with Dr. Dani Dumitriu about the impacts of COVID-19 on fetuses and newborn babies.

So, now that we have a better understanding of this research and how the methodology was done and the results, let's take a step back and talk about the impacts of this global pandemic as a whole. So, how has isolation and quarantine impacted the psychological health of pregnant patients and fetal and infant brain development?

Dr. Dumitriu:

Well, that's an excellent question and one that we didn't directly address for this particular study, one that we are definitely very much interested in and looking at in the COMBO initiative. But, you know, we do have some clues of whether or not maternal stress played a role in our cohort, and the clue comes from the fact that in a secondary analyses, what we did was we split the moms up in what trimester they were at at the height of the pandemic. New York City was the epicenter of epicenters in the spring of 2020. I mean, we were hit really hard. And so we categorized moms into the trimester that they were at during the height of the pandemic, which we defined as April 6. It was the day that we had the highest count of positivity rate in New York City. And when we did that, we found that, moms who were in their first trimester at the height of the pandemic had the infants with the lowest scores on those three domains, and that's actually consistent with a lot of literature showing that stressors early in pregnancy tend to have larger effects on the developing fetus, and it's simply because they can sort of incorporate themselves into the trajectory of the fetal development.

Dr. Chapa:

Well, Dr. Dumitriu, I'm sure that not just within the US but globally—I'm sure that pregnant patients have the same question regardless of where they're from, which is, what can they do or what can families do or communities do to help the neurodevelopment of a child? So, how would you answer that question?

Dr. Dumitriu:

Well, thank you so much for asking that question, Dr. Chapa, because this is really what's on most mothers' minds. And, you know, the beautiful thing about this is that my answer is going to be really simple. It is not rocket science. It is nothing new that we have to do. We do not have to reinvent the wheel. It's everything I do as a general pediatrician. It's promoting breastfeeding, which we know helps brain development. It's promoting mother/infant bonding by lots of skin-to-skin care. It's having a lot of face-to-face time. And take that mask off when you're at home, and spend lots of time with your baby looking at your baby face-to-face, singing, talking, playing, doing lots of silly faces. Narrate your day while you're going about and doing dishes and vacuuming the floor. You know, take that baby outside. I know that there's a pandemic out there, but it is safe to go for walks, it is safe to go to a park, and the more outdoor time the better. Because, guess what, Dr. Chapa. When you take a baby outside, the immune system actually does something different in the body. And the immune system is very connected to the neurodevelopment and to the brain development, and outdoor air is actually really good for that. So it's really not rocket science. It's just doing all the normal baby stuff that we generally recommend in pediatrics but doing more of it.

Dr. Chapa:

So, now, let's apply this information to a patient case. So, if I'm treating a patient diagnosed with COVID-19, let's say tomorrow in the clinic, who's pregnant, and she's worried about the effect on the child, what is the easiest information that she can relate to? How can I give her this information in a way that's easy to digest without giving her too much undue worry?

Dr. Dumitriu:

Well, it's a really tough question because, you know, honestly, we're still really putting this data together. We have one study. There are definitely a few coming down the pipeline from other groups that seem to be replicating our finding, but I definitely don't want to give your listeners the impression that we are out of the clear, that we know for a fact that COVID-19 in pregnancy doesn't have any effects. And so there are definitely, you know, open questions about whether or not COVID in pregnancy might have an effect. It might also have a very subtle effect that we didn't pick up in our sample of 255 infants. It might also vary by variance of the SARS-CoV-2 virus and geographical areas and different ethnicities and races.

You know, at least we have the reassurance that if there is an effect, it is very unlikely to be a large effect in terms of COVID-19 during pregnancy.

Dr. Chapa:

Having said that, any last or most important final thoughts or takeaways that you'd like to share with this audience?

Dr. Dumitriu:

Well, I definitely want moms, in addition to thinking about COVID infection and protecting themselves and getting vaccinated and making sure that they're wearing their mask—I want your audience to really focus on that psychosocial health.

This pandemic is really taking a huge toll on a number of different groups, and pregnant women are vulnerable in general, especially in terms of mental health and so, you know, focusing on that. We have some reassurance in terms of the disease during pregnancy, but we also see in our work that that psychosocial component is of huge importance. And finding ways to provide more social support for pregnant women, finding ways to connect. One of the best ameliorations of any kind of stressor is that connection, that human connection, which, unfortunately, this pandemic is putting a huge toll on finding, you know, public health measures to ensure that that support is in place. Those are the kinds of things that we're hoping our research is highlighting.

Dr. Chapa:

I'm so happy you said that because not only is it taking a toll on the psyche of our pregnant patients, my goodness, it's taking a toll on the physicians and healthcare providers overall. And so the good news is I know we're going to survive this. The good news is we're going to be better for it. The not-so-good news is we're still in it but there is hope on the horizon.

Dr. Dumitriu:

Absolutely, absolutely. I couldn't have said it better.

Dr. Chapa:

And as we come to the end of our program, I really do want to thank you for sharing your expertise in this complex area. So, Dr. Dumitriu, it was great having you on the program.

Dr. Dumitriu:

Thank you very much. It was a pleasure being here.

Dr. Chapa:

For ReachMD, I'm Dr. Hector Chapa. To access this and other episodes in our series, visit ReachMD.com/COVID-19, where you can Be Part of the Knowledge. Thanks for listening.