Family Planning and Living with MS

Presented by:

Rohini Samudralwar, MD

Marie LeGrand:
Good evening, everyone, and welcome to the MSAA's live webinar: Family Planning and Living with MS with Dr. Rohini Samudralwar. I would like to take this opportunity to thank you for joining us this evening. I'm Marie LeGrand, Associate Vice President of Mission Delivery, Health Equity and Education for MSAA and your host for the program.

Before turning it over to our speaker this evening, I would like to take this opportunity to go over a few services that MSAA provides, as well as some housekeeping items. As you may know, MSAA is a national nonprofit organization dedicated to improving lives today through vital services and support for the entire MS community. Our services include a national helpline, providing English and Spanish services Monday through Friday from 8:30 a.m. until 8 p.m. Eastern. Additionally, MSAA also provides equipment and cooling products designed to improve safety and mobility and to help with heat sensitivity. We also offer an MRI access program to help cover some of the costs for individuals with MS who qualify for assistance. We provide a variety of educational publications and digital resources that also includes the Ultimate Treatment Guide, which is now available on our website. Now, this interactive guide describes and compares 19 FDA approved MS treatments and will help support through community connection to help you stay connected with other members of the MS community. To learn more about MSAA’s programs and services, please do visit our website or give us a call to speak with one of our specialists.

As a reminder, throughout tonight's program, you will have the opportunity to ask questions by typing them inside a chat box. We do encourage you to submit questions throughout the program, and we'll do our very best to answer your questions during the Q&A portion of tonight's webinar. At the end of the program, we ask that you please complete a brief survey. Your feedback is extremely important and will help us in developing future programing and content. A link to the survey will also be included in the chat box. Please note that this program is for educational and informational purposes only and does not constitute as formal recommendations. Please do speak with your doctor or health care provider if you have any questions or concerns.

Now, as part of our MS Awareness Month series, we are focusing on family planning while living with MS. Dr. Samudralwar will discuss the intersection between family planning, diagnosis of MS, and navigating disease modifying therapies for people living with MS. By the end of the program, you will have a basic framework of what to expect when balancing a diagnosis of MS

at key stages of the family planning process and having a discussion with your health care team. Without further ado, I'd like to introduce our speaker. Dr. Samudralwar is an assistant professor at the University of Pennsylvania and a Philadelphia native. She is fellowship trained in multiple sclerosis and related disorders with a particular interest in patient and medical trainee education. She also has training in other rare neuroinflammatory conditions that can mimic MS. She is passionate about the intersection of women's health and MS care, especially providing support before, during and after pregnancy. Welcome Dr. Samudralwar.

Dr. Rohini Samudralwar:
Thank you, Marie. I'm just going to share my screen here. All right. Hopefully you can all see that. Thank you so much. And I'm so happy to be speaking to all of you today. It's absolutely fortuitous timing because just this morning, a new publication came out in one of our high impact journals specifically on fertility and MS. And so I'll get to give you something hot off the presses in one of my slides here, and I think it's very pertinent to our discussion today.

So as Marie mentioned, I'll be talking about family planning and how this intersects with the diagnosis and management of multiple sclerosis. I'll start off by talking about the timing of an MS diagnosis and why that's important in the realm of family planning. We'll talk a little bit about how hormones affect MS, and that will lead into our discussion on what to expect when you're thinking about growing your family, managing your family, and adapting that to multiple sclerosis. And then we'll specifically focus on pregnancy and what to expect post pregnancy in relation to this diagnosis.

So we can start off with timing of multiple sclerosis. I think most of you already know MS is considered a young person's disease. The average age an individual is diagnosed is usually at the time that they are having children or fathering children. And this is really important because it can have huge impacts, as I'll show you in the next few slides, about what to expect moving forward. It might influence decisions on whether or not to have future children and then perhaps bring about concerns on what to expect for your children that you do have.

Another important aspect to remember here is that the ratio between men and women has increased over the years. Now it seems to be more of a 3 to 1 ratio. Some of this is due to just lifestyle changes in our modern times, where people are tending to have children later on in life and fewer children, that might be affecting this ratio. I do want to preface all of this by saying that a lot of the facts and the material here is based off of the binary depiction of gender. That's because most of our data is specifically focused on this. But I think there is a huge role for more inclusiveness and research for the non-binary community as well. And I think we should see more of that throughout the next few years.

Another major theme that I will continue to bring up throughout this talk is the effectiveness of the disease modifying agents of therapies that we have for multiple sclerosis. Early and effective treatment has played a huge role in making family planning and childbearing and child fathering actually possible with this disease in a safe and effective manner.

There's something that is not affected, but I think is on almost everyone's mind when they have this diagnosis, is whether or not MS affects your fertility and the course of pregnancy. And it's really important to understand that it does not. And I'll talk in a little bit more detail about some of the nuances with that. And this talk is limited and we only have a limited amount of time, but this is a very complex discussion to have. So I hope I can at least answer some initial questions and concerns you might have. But, your MS specialist and health care providers many times are perfect to help give you specific information on what to expect.

So as we know throughout our life, we have multiple twists and turns. We're navigating building a career, educating ourselves, expanding our family. And this happens at multiple different intersections of our life. But what also happens, unfortunately, is this diagnosis of multiple sclerosis. We most commonly see this between the ages of 20 to 30, 20 to 40, right at the time that you are planning all of these big life moments.

So knowing that there is this huge intersection between the two, it becomes very important to understand how to navigate both in a very new and difficult diagnosis, but also be able to achieve the milestones in your life that you want to. Before we talk specifically on that, I think it's important to take a step back and think about what's happening biologically and physiologically, specifically with the hormones. I think this tells... the hormones tell us part of the story of why family planning issues are affected by this disease. So even at different stages of life, we see fluctuations in our hormones and we also see correlating fluctuations in prevalence of MS, frequency of MS, and severity of this disease. It is important to note that MS is not thought to be caused by one factor. We think it's multifactorial. So there might be hormones at play, genetics at play and environmental factors at play. It's really not one thing that we can really pinpoint.

And there's several other risk factors that I haven't focused on here. We know that there is some correlation here because even at the age of puberty, what we see is every year that menarche is delayed the risk of MS falls. And this is not something that's necessarily under our control, and so it's not necessary to need to influence it in any way. It's just a factor that sort of tells us that there is a relationship with hormones in this disease. And we also know that hormones have an effect on multiple different branches of the immune system and can have a proinflammatory effect in specific periods of pregnancy. And then during menopause we see that the ratio, that ratio that I showed you before was 3 to 1, actually drops down to 1 to 1. And we think that might be because of the change of hormones that occurs during menopause.

Now, this is kind of, again, a very typical binary depiction of the disease differences influenced by feminizing hormones or low testosterone levels. You see that there is higher prevalence in women, but perhaps faster progression in men. You see more inflammatory or active lesions. That's the G.D. positive or GAD-positive lesions on your MRI. Whereas where we see more T1 lesions or lesions that cause a bit more permanent damage in men. Now, this is all a spectrum. This is not... does not mean that one size fits all. There are certainly women with more severe disease than men, with milder disease. but this is kind of the general trends that we tend to see. Again, just emphasizing that there seems to be a difference and some sort of influence with hormonal involvement.

And it's interesting to note that the different hormones also affect the immune cells in different ways. Our immune system is just as complex as all of the different hormones that are flowing through our bodies, and they kind of have a paradoxical effect where they may have a stimulatory effect on one branch or perhaps an inhibitory effect on another. So it's really, really difficult to know if you just prevent regulation of one branch that will stop progression of a disease. It's not quite as simple. What we do know is that one does influence the other and that allows us to be better prepared and better understand what's to come when hormones do change in a typical lifestyle and we can we can sort of be better prepared in managing multiple sclerosis in that way.

So now I'm going to go a little bit into the nuts and bolts of family planning and how we adapt this multiple sclerosis. There's so many different aspects of family planning, and I tried to distill it down between fertility, contraception and assisted reproductive technology. And there's so

much that can be said about all of these three topics. I'll try to touch on it as much as I can. I wanted to start off by looking at whether or not multiple sclerosis even affects people's decision making in having children or developing their family. And you can see here that, interestingly, there is actually quite a difference throughout multiple different countries. You'll see the purple shows you where folks with multiple sclerosis mention that MS significantly changed their plans, meaning timing and the number of children, whereas the blue shows MS definitely made me decide against having children. You see that there's differences between countries, but what was really... what really stuck out to me was that there was even a thought that multiple sclerosis deterred someone from having children if they really did want to.

We're in an era now that's very different from 10, 15, even 20 years ago when the typical conversation between a provider and an MS patient was that they should not have children or perhaps consider against having children. This didn't necessarily deter people, but it was, unfortunately, the conversation that was being had because there was such a concern that that individual would incur severe disease burden and be debilitated. That is not the conversation that we have nowadays. We are in a very, very different era of multiple sclerosis, where we have a significant amount of, again, very effective therapies that have really changed the landscape of allowing our patients to have full and fulfilling lives. And I'll talk a little bit about some of those specifics in just a little bit.

I want to touch on, again, emphasizing a very important point, starting really with fertility. Fertility is not directly affected by multiple sclerosis in the typical form. So it doesn’t mean that because you have relapses or you've had progression, that that somehow is affecting your fertility, despite the understanding that there is a relationship between hormones and the inflammatory pathways. As you may recall, I had mentioned that it is a very complex system where it's not one inhibiting the other. It's actually a combination of inhibition on one arm and perhaps instigating on the other. And so it's at least reassuring in that way that your fertility would not be affected.

What might affect fertility is some indirect causes. So other autoimmune diseases perhaps can, outside of multiple sclerosis, and there are some symptoms that come along with multiple sclerosis, as we all know, that those certainly can affect fertility. So things like fatigue, sexual dysfunction and bladder impairment certainly can affect fertility on their own. And then as we saw in the previous slide, an individual decision to conceive could also be influencing their decision to have children. But MS on its own does not seem to affect fertility and that is definitely a positive aspect.

I know that so much of this timeline is on a lot of patients’ minds, especially as they're grappling with what this disease means for them, so it's important to really understand that fact. There's been conflicting data for years. If you happen to look at medical journals over time, you'll see some small studies that show that ovarian reserve has been affected and Anti-Müllerian hormone has been affected. But overall, the most recent studies looking at modern cohorts don't show too much of a difference, even when adjusting for hormonal therapy, BMI and even smoking risk.

So we'll move on to assisted reproductive technology, so fertility treatments, essentially. So, outside of multiple sclerosis, the general population, about 12%, and this statistic might have changed slightly, but about 12% of women in the general population confront infertility. And our initial studies were a bit disconcerting. And it showed in the short term that perhaps it worsened disease and caused more relapses. These were smaller studies at much older populations, and in a time when we didn't have effective disease modifying agents. Now more recent studies are

larger, including more diverse type patients and looking at multiple different types of hormonal therapies. And in an era where we have really effective therapy, we do not see an elevated risk of relapses. And I alluded before I started today that there was just a recent paper that came out in the Journal of Neurology, it was a multicenter study that actually looks specifically at this. Different centers contributed their patient information with their consent regarding their use of assisted reproductive technologies and their relapse rates prior to starting fertility treatments, and then after starting fertility treatments. And actually there was no increase in those relapse rates that were thought were a problem very early on. And several of these people had worked concurrently on disease modifying agents. And so it again, sort of reinforces the idea that because we have this active therapy, that really increases our chance of success and also places the women at a safer stage, but also can allow for pregnancy to occur safely.

Now, I haven't forgot about the men in the group. We have several male patients who also face a lot of these same issues and have very similar concerns. So these same questions on family planning and fertility also exist. And in fact in men likely because it's not as frequently discussed, there is a significant amount of fertility risk. But again, not directly from multiple sclerosis. What we see is more influencing fertility of men is sexual dysfunction. And what I mean by that is reduced libido, erectile dysfunction and ejaculatory dysfunction. The latter two can be affected from relapses, and especially if the spinal cord is involved in multiple sclerosis. And so in that indirect way, sexual dysfunction can occur and lead to difficulties with fertility.

It's unclear if disease modifying agent exposure can affect fertility. And really where this comes into play is a lot of our highly efficacious therapy, things like Cladribine and Teriflunomide have these labels on the medications that suggest caution with reproduction. And specifically with Cladribine the recommendation is that men are advised to not have children until at least six months after treatment completion. Although we really don't have real world data to support that. That is a recommendation from clinical providers as of now. It's really important to get that data and look at real world data and registry data, because it's critical to know that clinical trials are kind of a snapshot and really tell us about efficacy and safety of the drug, but don't really tell us about the long term issues such as fertility and family planning issues that might come up.

Something like Teriflunomide was in a similar category where there was concern and there was a lot of pharmacovigilance around fertility, especially for men, because there was a concern that this was getting into the semen. But through registry data, this has not suggested any negative effects. And so it's something that we monitor and something that we look at very closely. But it's turning out more and more to be positive. Again, it's a conversation to have with your health care provider because they can give you more specific information pertinent to you.

I also want to point out the graph to the right and hopefully it's visible. This was in a similar group of patients that were asked on the previous couple of slides. This really looked at how MS affected family planning based off of gender. And you'll see for the most part it's not too much of a difference between men and women. Where you really see that difference is that last aspect again, where it says it definitely made me decide against having children. Where you see women were more likely to be affected by that decision. And so again, a very important point to have these discussions often and early, if it's on your mind, especially with this diagnosis, because it is possible to have a safe and healthy family in this era.

So I just want to touch finally on contraception. This is, again, an area where more data is certainly needed. There's not definitive conclusions on MS risk, but certainly hormonal contraception, whenever appropriate, is recommended and doesn't seem to negatively affect progression or disability. There doesn't seem to be any clear signs of that and there doesn't

seem to be interactions between contraception and oral DMTs. The recommendation is if this is the choice that you want to make, we always recommend opting for the most effective method, long acting, but also reversible. So this would include intrauterine devices and implants as well.

So, just some final takeaways just on this aspect of family planning, fertility and preconception. So the years before pregnancy, this is a discussion that you should definitely have with your provider. It's something that at each new diagnosis I talk to with all my patients and sometimes the patients give me a funny look, thinking that I'm crazy for asking them because they're so done having kids. But it's something that's important for me as your doctor to know so that I can plan for the best treatment moving forward. And if you don't hear that from your doctor, it's something that you absolutely should bring up. It's important to also talk to them about what your next few years might look like. Are you thinking about having more than one child? If you thought about spacing that out and what sort of pattern that might be? If you don't have any of that thought out, that's okay, too. But it's important to continue just to have that discussion as you start disease modifying agents and certainly should not delay disease modifying agents if it's around the corner.

This is just kind of another outlook on different forms of planning, mainly for providers thinking about how to help our patients based off of different types of therapies.

So let's move on to multiple sclerosis during pregnancy. Now, this is probably also a very common topic, a lot of the data from pregnancy and multiple sclerosis is based off of one of our landmark trials called PRIMS, you'll see that on the left hand side here. I can orient you a little bit. So here, this first bar here is all the PRIMS data, looking at the ARR, the annualized relapse rates before pregnancy in the third trimester and postpartum. And this is the... these are the numbers we have for the Modern Cohorts. So the annualized relapse rates after pregnancy or postpartum. And then this is the different trimesters. I think it's pretty common knowledge at this point that pregnancy can be protective, but we have to talk in a little bit more detail about that. It's really protective in the second and third trimesters. That first trimester, we still are concerned for relapse rates, as you can tell, the difference here, 0.7, to 0.2. And then especially postpartum is when we see this kind of spike in relapse rates increase.

Now, you'll notice there's a difference between annualized relapse rates in the PRIMS study versus the annualized relapse rate in our Modern Cohorts.. And we think this real difference is because of disease modifying agents that we have. We're starting treatment early, we're diagnosing early, and many times, if needed, we're continuing treatment early. The conversation used to be that if you did get pregnant that you would be taken off of therapy altogether or be put on a platform agent. And many times that was fine. But for folks who had more severe disease, several relapses or had significant disability, this just was not enough. And nowadays we have a lot more mechanisms and safety data to show that it's okay in specific scenarios to be on certain types of treatment. And so we see that the risk of relapses has decreased. Unfortunately, what we're still grappling with is that there continues to be MRI activity for about 50% of people, and this might not show active disease when we do get an MRI post-pregnancy, but it can at times show that there have been some silent lesions that developed. And our medications many times can be effective in a lot of ways. But there might be a level here that we still need to address, and that's really where the clinical trials and our research come in.

So going a little bit deeper, I mentioned a couple of risk factors for someone who might be at risk for relapses during pregnancy or postpartum. So some of those risk factors include having several relapses during pregnancy itself, having a high EDSS, so the EDSS is our marker of disease involvement. So it's basically like a neurological exam, sort of distilled for multiple

sclerosis and it's a marker that we use in all our clinical trials to judge effectiveness of therapy. And then your pre-pregnancy disease activity is also really important. If you've had mild disease, maybe not too many relapses is usually a good sign. And then we've noticed an additional aspect where folks who've been on S1P inhibitors, such as fingolimod or natalizumab, whether or not you're pregnant, there at times can be a risk of rebound disease that your doctor will talk to you about. And so you want to be very cautious if you're coming off these medications during pregnancy, and there are mechanisms to allow to do that safely.

Folks with mild disease, like I said, could remain relapse free during pregnancy, even being off of therapy. The folks with active diseases is really where we need to be even more cautious. So although we know that pregnancy is a protective period, the immunological changes may not be enough protection in folks with active disease. And so in these situations, there have been recommendations to continue things like natalizumab, having cladribine prior to or thinking about other antibody depleting therapies during or even before pregnancy. So there are again, ways that we can protect our patients even with active disease. And I think a lot of this is what has led to that decrease in annualized relapse rates and better outcomes nowadays.

In the past, like I mentioned, the conversation was usually pretty short in recommending against pregnancy altogether, or if a woman did become pregnant, recommending against starting disease modifying agents. And there's one fundamental issue with this is there was no real consideration for the woman bearing the burden of the multiple sclerosis and that mindset, again, led to significant disability down the line. And so to avoid that, these treatment paradigms have been developed where we're balancing a lot of different things. We're balancing the risk of continuing treatment for both the baby and the mother and the risk of discontinuing treatment for both the baby and the mother. Understanding that there's two factors at play here and we want to manage everyone's safety involved. And so I think this risk and benefit balance is a little bit better because not only do we prioritize protecting the woman from developing further disease or further relapses, but we're also protecting the baby from any harm or risk incurred.

Another important point about pregnancy, of course, is the delivery and a common question that I will get is what type, what mode of delivery is important? Can I get anesthesia? If my O.B. recommends certain types of things, am I allowed to get that? All of those things are really up to your O.B. They do not have an impact on multiple sclerosis and, again, should be at the discretion of the safety of the person bearing the child and the child's safety. And so we defer to our obstetric colleagues on what is the best course of delivery. We do have some small studies that show that spinal anesthesia is safe in folks with multiple sclerosis. So we don't worry about that either. One of the factors that might affect a vaginal birth is fatigue. And again, that's a limiting factor and not a contraindicating factor, meaning that it doesn't prevent one from going through pregnancy. It just might be a limitation that you can certainly discuss with your MS specialist as well as your O.B. to find ways to help with that.

One important point, though, is if one does remain on the therapies, closer monitoring will be necessary. And this is really where the O.B. and the neurologist really need to be in close conversation and make sure that everyone's on the same page. There are a lot of practices throughout the country where many times people will recommend steroids after delivery and there's not a real protocol, per se, for this. And again, not too much data on whether or not that's appropriate. And usually we'll see this used after delivery for folks with more severe disease, but is not necessary after each delivery.

So some take home points about pregnancy. There's several different therapeutic options that could be considered during pregnancy. And of course, there are some caveats around this. It

can be first-line injectable agents, oral agents, natalizumab, and then these antibody mediated... other monoclonal antibodies like anti-CD20s. And then it's important to make sure that you discuss your postpartum plans with both your neurologist as well as your O.B., of course. And it's always best if they're both in conversation with each other. And again, as far as delivery methods, not to worry too much about anesthesia and things like that, as long as it's safe from your O.B.'s perspective, that is okay to use from the neurology perspective.

All right. Moving right along to post-pregnancy. So post-partum in multiple sclerosis is another very important factor. And I touched on a few of these aspects kind of post-delivery. So consider postpartum. Usually what we see is individuals gradually recover their immunity pre-pregnancy, which is really good. Unfortunately, there's that historical data that there is an increase in relapse rates. So as we see this decrease in pregnancy hormones, that protective period sort of washes away, that concern for increased relapse does return.

So there are a few, again, independent predictors of postpartum relapse. If you had higher relapse activity prior to conception and during pregnancy, that might increase your risk post-partum. And then if you're EDSS, that neurological assessment, is greater than 2.0 at conception, that, many times, can also affect your risk. So there needs to be some individualized decisions and disease modifying therapy. And like I have mentioned multiple times before, early and effective therapy is very important. So we really want to be... we really want to have a plan as far as when we're going to restart medication. If we haven't started medication up until then, when are we going to start it? How are we going to start it? And planning that around what plans you might have for you and your baby.

So back to our diagram here. So now we're past the third trimester and into the postpartum period. And like I mentioned, what we're trying to avoid, again, is going back to this era where there's this increase in relapse rates or a huge concern for increased relapse. And one of the major ways that we've avoided that is having a plan before delivery of when and what treatment to start right away. With most of our patients, we will make sure that we repeat MRI imaging after delivery in order to sort of find a new baseline. So we kind of see where the MS has settled after pregnancy. And as I noted before, because there's this concern that there might have been some silent MRI activity, it's really important to see what changes have occurred, if at all. And then that, right after that, making sure that we can start therapy right away.

Before I get into breastfeeding, I just want to make one more comment on the last slide. One of the challenges are more logistical with starting disease modifying agents, and this could mean things like making sure you have all of the labs prior to starting medication, insurance challenges, or needing care with an infusion center. It's part of the reason why we try to plan all of that at your visit with your neurologist before you deliver. And many times, if you can even have a date on the books for, say, if you're going to get an infusion or a date in which the medication might be delivered to your home, many times can take out a lot of the stress that you already might be under with a newborn. And so you're you're kind of ready to go to protect yourself with your multiple sclerosis.

So breastfeeding and multiple sclerosis, this is also a very individualized choice. And also an area in which the conversation has drastically changed over the last decade. There was a lot of uncertainty around breastfeeding and multiple sclerosis. And at times women were discouraged from doing so just so they could get on disease modifying therapy. And this time, although the woman was prioritized, they were discouraged from doing something that they perhaps really wanted to do, building that bond with their child and providing any of that care to that child that they wanted to. And so this also brought about some concerns. And a few more studies have

been done both at the registry level, population studies and looking at the effect of disease modifying agents while one is breastfeeding.

Now we know that breastfeeding might actually be protective in itself for multiple sclerosis. And so all that drop in hormone, pre-pregnancy hormone levels that we were discussing, post-partum might be attenuated here during breastfeeding. And so it actually can be beneficial for your multiple sclerosis as well if this is the choice that you want to make. One other concern is getting started on disease modifying agents. I stressed so many times that this is such a big priority post-partum, and we don't want that to be butting heads with the desire and need to breastfeed.

Thankfully, in Europe, several medications have actually been approved for breastfeeding. This has included interferons, GA, and ofatumumab. We've seen in smaller studies that there is some safety with monoclonal antibodies, and there's a very, very small dose that gets into, that gets through the breastmilk and with minimal to no effects on the child. These are smaller studies and considerably larger studies are necessary. And we still want to, of course, balance the risk and benefit again here. There are studies underway in the US, specifically on some of the monoclonal antibodies and breastmilk. And we think that there might be a combined effect if there is kind of an innate protection with breastfeeding perhaps, or even more protection with being on a disease modifying agent, just as we saw with pregnancy. Things like high dose steroids or plasma exchange can be used to treat relapses during breastfeeding. So this is another area in which practitioners initially were very concerned about treating relapses during breastfeeding. And so I think that concern can also be allayed, and again, very, very important to treat a relapse as soon as it's happening to get the most effective recovery. And so this kind of takes away that barrier as well.

Just some final practical advice, post-pregnancy. Again, there's a lot of conversation and planning that's necessary in this situation as well. This is more of the third trimester kind of conversation, so I usually meet with my patients around then, talk about what their birth plan is, kind of allay any fears and answer questions about the lack of risk with their MS in that regard and deferring to the OB. And then making sure that we have a clear plan as far as starting disease modifying therapy and respecting the patient's wishes to breastfeed or not to breastfeed and working around that with their disease modifying agent. And again, like I mentioned, there is very specific recommendations now regarding this for all providers. And so there's definitely more information and more data out there than we had before, although there is still more to come and larger studies. And like I mentioned, although the diagnosis really coincides with such important life milestones, I think this is something that can be navigated.

Just as a review, again, and things I want to emphasize, the diagnosis and relapses, like I said, coincide with a growing family so important to discuss your plans early and often and if plans change and evolve to include your doctor. I always tell patients that the decision to having children is between you and your partner, but I also need to just have a little... just be notified. So I'm part of the decision as well, I've inserted myself in your relationship. The effects of hormones at different life stages can also affect multiple sclerosis. So early and effective treatment can improve outcomes at all stages, and it's possible to grow your family with MS, I can't emphasize that enough. And what it really involves is planning with your doctor, weighing the risks and benefits to make the best decision for you and your family. Thank you.

Marie LeGrand:
Thank you so, so very much, Dr. Samudralwar for this wonderful presentation. And now we would like to take an opportunity for some questions. Just a reminder, so please be sure to type

your questions. And we had a few come in prior to tonight's webinar, and we'll start with this one: “I had a bad relapse during my first pregnancy and have chronic fatigue now. Is it unwise to have another child?”

Dr. Rohini Samudralwar:
I think if the decision is purely based on the fatigue, then that is certainly not a barrier to having a child. That decision again is very personal. There might be other aspects to consider. So really what it comes down to is looking at what your multiple sclerosis is looking like now, if you're on effective therapy, and that might actually change your outlook on having another child. But the fatigue on its own is not a reason not to have a child. And that's completely your decision.

Marie LeGrand:
Okay. Good to know. Now, with MS episodes being tied to stress, how does postpartum anxiety or depression impact risk of relapse?

Dr. Rohini Samudralwar:
That's such a great question. I think that's something that I should have included in my talk, for sure. So it's important to note that things like depression and anxiety will not bring on a relapse. They can certainly bring on what's called a pseudo-relapse and kind of exacerbate pre-existing symptoms. And so you might notice that if you were someone at one of your relapses had right eye blurry vision during that post-partum period with post-partum depression or anxiety or what have you, you might notice some of those symptoms coming back, but it's not necessarily a relapse. Either way, it's really, really important to get treatment of the post-partum depression and any post-partum effects that might be occuring, and that can be done through your neurologist or a psychiatrist.

Marie LeGrand:
Okay, wonderful. Now, there were several questions that came in around infertility, DMTs and MS. And I know you touched on some of that during your presentation, so thank you for that. But if you don't mind, we have a couple questions that maybe you would be interested in answering. So the first is, “Is there any research on infertility treatments and MS or are people with MS more likely to struggle with infertility?”

Dr. Rohini Samudralwar:
Yeah, this question is so timely because of that article that came out today. It actually, again, MS is not directly correlated with infertility, and now we know and have a little bit more proof that people can still do well with their MS while on fertility treatment. So one doesn't stop the other necessarily. And I think that hopefully is a reassuring factor. It certainly was for me, and I know several of my patients.

Marie LeGrand:
Okay. And then perhaps, “What is the risk of being...,” and I think you may have addressed that as well, “...the risk of being on certain treatments and infertility?”

Dr. Rohini Samudralwar:
Oh, I'm sorry. Say that one more time.

Marie LeGrand:
What is the risk of being on certain treatments and infertility?

Dr. Rohini Samudralwar:
Yeah, this is a little bit more of a detailed conversation and might depend on the type of treatment that you're on. Again, not too much data. The small data that's out there shows us that there isn't too much of an effect on infertility. What more might be affected, and what we see this more, is in men. There was concerns with things like cladribine and Teriflunomide, but in the real world cohorts and the registries after the clinical trials, it's just not showing that level of danger that we were concerned about. We still make the precautions with our patients to kind of space out taking medication in certain situations with fertility treatments or with conception. But again, this new study actually shows that several people, almost 50%, about 43% of people were on disease modifying agents while they were taking fertility treatments and still had safe pregnancies.

Marie LeGrand:
Okay. Now this one pertains to male fertility specifically. So, “Does MS and treatment impact male fertility, specifically sperm?”

Dr. Rohini Samudralwar:
Yeah. The semen analysis was something that was looked at specifically with Teriflunomide because there was a cousin drug of it that was developed earlier and I think had a lot of the same risk factors. In the clinical trials, that was a concern. There's not too much, again, too much data surrounding the actual numbers of this. But, so what folks have done since the clinical trials is develop registries. So any male who is on Teriflunomide registers with this group and they actually will analyze some of the data after being on this medication for a certain period of time, and there does not seem to be that same level of concern or same level of risk in the semen as we initially thought. Again, these are small and these are early, but I think very positive.

Marie LeGrand:
Okay, wonderful. “What is the likelihood of severe relapse if DMTs are stopped in order to attempt pregnancy?”

Dr. Rohini Samudralwar:
It's a good question and I think, again, depends on those previous risk factors that I mentioned. So if you're someone with kind of mild disease, you might be okay during pregnancy because there is a level of protection with pregnancy. However, if you're someone who's had significant relapses prior to pregnancy, perhaps had a significant disability and didn't have full recovery from your relapses prior to pregnancy and have significant MRI activity, you might be more at risk of still having a relapse during pregnancy. And so it might be important to talk to your doctor about actually staying on disease modifying agents, or even at the very least thinking about restarting it very, very soon after delivery. We know now that a lot of these medications can safe during pregnancy and so... and reduce the risk of disability and relapses in individuals who take them. So if you can balance both aspects, that would be the recommendation.

Marie LeGrand:
Okay. Now speaking about DMTs, there was one that came in recently, a question that came in not too long ago about Tecfidera, and if it's safe to take that.

Dr. Rohini Samudralwar:

Tecfidera specifically, I don't know that we have a lot, again, a lot of data on that. The oral medications are kind of variable in this way. Actually, we have a little bit more safety data on some of the monoclonal antibodies and infusions. So that might be a specific concern that you could discuss weighing the risks and benefits there.

There's also a question, Marie, if we have a minute, there's a question about what are the chances of children being diagnosed with multiple sclerosis? I think this is a really important question. This is also a question I get often in the clinic. The risk is actually very low. As I mentioned, multiple sclerosis isn't necessarily caused by one thing. It's a combination of environment and genetics and hormones and so many different things. And so the risk of passing it down to your children is actually quite low. And it's not something we typically worry about. You'll notice in people who have MS, many times, will not have a family member or they'll have a very distant relative with multiple sclerosis. So it's not a risk that we really are too concerned with.

Marie LeGrand:
Okay, Good to know, because I know there are... I hear that question very often as well, you know, during our webinars, and especially the one we did, well the podcast that we did a couple of weeks ago around pediatric MS, and that was one of the things that, you know, parents often wonder about, especially if they already have a child living with MS, how that's going to affect others, perhaps their other children or, you know, in the family. So thank you for addressing that.

Dr. Rohini Samudralwar:
Yeah, absolutely.

Marie LeGrand:
Yeah. Now another question that we have is, “How can I plan a family without triggering my symptoms?”

Dr. Rohini Samudralwar:
Oh, well, I hope this talk addressed some of those, some of that aspect, but I think it really involves a lot of discussion with your neurologist from start to finish. So really thinking about for yourself how many kids you want to have, if you want to have kids, and perhaps even the spacing and timing of those children. That can really help your neurologist plan your treatment or even direct you to a treatment that would be safe even during pregnancy, safe during breastfeeding and all of that. And so I think first, understanding for yourself what you want that to look like and then explaining that consideration with your neurologist. Because I will tell you, it's always easier when my patients know exactly kind of what they want in the next few years, because I can help them plan so much better. Doesn't always happen, I can understand that, and so what I ask of my patients is always to... we just check in with every visit. Have you thought about family planning? What are you thinking about? Has your plan changed from before? And that's kind of part of our standard conversation at every visit.

Marie LeGrand:
Okay. Now, what are some tips or things that can help with safe and full term pregnancy?

Dr. Rohini Samudralwar:
This is a... it's a good question. As far as with your MS, it's a lot of the things that I mentioned. You know, if you have severe disease, really talking to your doctor about staying on therapy if

necessary, or being ready to get steroids when necessary, but other things that you can do are really what any other pregnant individual might do. Eating healthy, balanced diet, exercising when possible, and maintaining some level of activity. So those aspects actually don't change at all. It's actually the same kind of recommendations I give to someone who's not pregnant with multiple sclerosis. You're still a normal individual. And so all the general health practices that a physician tells you are still at play.

Marie LeGrand:
Okay. A question just recently came in: “If you failed on DMTs that are safe to use post-partum, would it be advisable to return to those DMTs in order to breastfeed?

Dr. Rohini Samudralwar:
I want to make sure I understand the question if you fail the therapies...

Marie LeGrand:
So I'm guessing they're asking if perhaps the DMTs... they said “if you fail on DMTs that are safe to use during postpartum, would it be advisable to return to those DMTs in order to breastfeed?” So perhaps...

Dr. Rohini Samudralwar:
It's hard to answer exactly without knowing which specific ones. But I think what you might be referring to is if you fail some, the rest of the DMT options, are they still available to you? Perhaps? In which case, for the most part they might be. There are some oral DMTs. We just don't have any data as far as breastfeeding. And so those might be ones that we would want to avoid. Things like many of the oral DMTs, we just, unfortunately, don't have too much information on that to really give good advice. And so in those situations, you can either just stay off disease modifying agent if your neurologist thinks that's safe enough with your type of MS, or considering doing a trial of one of the other disease modifying agents that are safer during breastfeeding.

Marie LeGrand:
Okay. “Is pregnancy beneficial to women with MS, as they say?” So basically. In other words, should people rush to get pregnant as an added benefit?

Dr. Rohini Samudralwar:
Pregnancy is protective, remember, more so during the second and third trimester. It certainly is not a treatment for multiple sclerosis. And so it's more to say that it's okay to get pregnant and it's encouraged if that's in your plan, but certainly, many times, may not be enough to protect you on its own, especially with those individuals with severe disease. And really what's going to protect someone ultimately are these disease modifying agents.

Marie LeGrand
Okay. Now, “What is the best way to keep yourself and the baby healthy during pregnancy and afterwards?” And another question around is, “Do you recommend prenatal vitamins?”

Dr. Rohini Samudralwar:
Absolutely. I'll start with the second question first. The prenatal vitamins absolutely, absolutely are important. And I think one thing I didn't mention before is continuing your vitamin D, vitamin D is very protective in multiple sclerosis as well. It certainly doesn't prevent relapses, but might

help with some of the fatigue and all of those other symptoms that kind of come along for the ride with multiple sclerosis. And then I'm sorry, Marie, could you repeat the first part? What other practices are...

Marie LeGrand:
Yeah, sure. So, yeah, “What are some of the best ways to keep yourself and the baby healthy during pregnancy and after?”

Dr. Rohini Samudralwar:
This is, again, a question that your neurologist, your primary care and even your OB can help with. It's the general health practices that we tell everyone. There's not anything necessarily specific to multiple sclerosis. So we still recommend exercise, activity, and then eating a good and balanced diet as much as possible. You still can do all of those things. One of the things is... some of the things that might be held off on are, perhaps, if you're on a muscle relaxant, your doctors might recommend that you stay off of that during pregnancy. We all know muscle cramps can come along for the ride with MS. So there's other ways around it, like magnesium, stretching, exercise, increasing hydration and things of that nature.

Marie LeGrand:
Okay, wonderful. So we are pretty much at the end Dr. Samudralwar. So, do you have any last words for our viewers to consider?

Dr. Rohini Samudralwar:
I just am thankful that I had the opportunity to talk to all of you today. And again, just wanted to emphasize how thankful I am that we're in an era where these discussions can be so positive and I can be encouraging to grow my patients’ families and get to see them kind of spread their love and show me baby pictures and know that they can have a completely full life despite having this disease and still remain healthy with their multiple sclerosis.

Marie LeGrand:
Oh, baby pictures are so much fun.

Dr. Rohini Samudralwar:
They’re the best.

Marie LeGrand:
Well, thank you so very much, Dr. Samudralwar, I truly appreciate it. And I'm sure our viewers appreciate it as well, as we can see with all of the questions that were coming in during tonight's presentation, as well as before. So this concludes the webcast. Tonight's webinar was recorded and will be made available on our website. Please do visit MSAA's calendar of events for our upcoming webinars and events on behalf of MSAA, we would like to thank you again, Dr. Samudralwar, for taking the time and providing us with the tools needed to better understand family planning while living with MS. And to our wonderful audience, we would like to thank you for joining us this evening. Please do take a few minutes to complete the brief survey, which will appear on your screen momentarily and know that we are thinking of the entire MS community and hope that you and your families continue to stay safe.

Thank you and have a good night.