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Fighting Flu Vaccine Myths: How to Effectively Dispel Misinformation

Announcer:
You're listening to *VacciNation* on ReachMD, and this episode is sponsored by CSL Seqirus. Here's your host, Dr. Charles Turck.

Dr. Turck:
Welcome to *VacciNation* on ReachMD. I'm Dr. Charles Turck, and joining me to share strategies for dispelling common myths about the influenza vaccine is Dr. Mirella Salvatore. She's an infectious disease specialist and Fellow of the Infectious Diseases Society of America. She had recently left Weill Cornell Medicine, where she was an Associate Professor of Medicine, to become Medical Director in the Community Healthcare Network Clinics. Dr. Salvatore, thanks for being here today.

Dr. Salvatore:
Thanks for inviting me.

Dr. Turck:
Well, to set the stage here, Dr. Salvatore, why do you think the flu vaccine continues to face so much pushback despite long-standing efficacy and safety data?

Dr. Salvatore:
I really believe that there are two main reasons. One is misunderstanding about flu and what the flu is. Because during the winter there are many circulating viruses, including very mild viruses—the garden coronaviruses, the rhinoviruses—that give a mild disease. And so people don't know, what is influenza and what is a mild disease? And very often you don't do a swab to diagnose rhinovirus.

And so it's this fact, in association with the fact that sometimes when you get a flu vaccination, you might have a mild fever, pain in your arm, or some mild distress that people think is the flu. So many people might get to the conclusion, "Why I am taking a vaccine to prevent the flu that is mild anyway if I'm getting some flu from the vaccine itself?" So it's a kind of round thinking that brings them to the conclusion, "Flu is mild, the vaccine can give side effects, so I don't need the vaccine—I will work out the flu with my body."

Dr. Turck:
Now, with that in mind, let's dig into a few myths we commonly hear. One common one is, "I got sick from the flu shot." Would you walk us through what's really going on biologically when the vaccine is administered, and how it has an impact on patients' perceptions?

Dr. Salvatore:
So we know that the influenza vaccine, generally speaking, is made with inactivated virus—meaning that it is a killed vaccine or purified killed vaccine—that are injected in the body to create an immune response, and so it will protect us against influenza.

However, when the body responds, there is a lot of inflammation as part of this response. With this inflammatory response, they might have some fever and some pain at the site of injection—those are very mild side effects, and not everybody experiences them. But as part of the response to the flu, it's your body that is responding to the influenza—it's not the body succumbing to the disease itself. So in this respect, what happens is part of the normal response to the vaccine; it's definitely not the flu.

Also, in vaccines, we know that individuals 65 and older have a lower immune system that doesn't work so well. So there are strategies to increase the immune responses that include having higher doses of the vaccine—having up to four times the dose of the vaccine itself—to improve the response, or having something that is called an adjuvant. That is a molecule that increases the inflammation so that you get a better response. And so, in a way, this adjuvant can increase together with the response. You can have some little irritation in the site of injection. You can have a response that is definitely not the flu, but it's part of the inflammation to fight the flu.

Dr. Turck:
Now, another sticking point is efficacy. Some patients hear that flu vaccines change every year, and they may get the idea that these flu vaccines only offer partial protection. How might we respond to concerns related to the vaccine not being fully effective?

Dr. Salvatore:
With the COVID vaccine, we knew that were effective in 99 percent of the population in preventing disease. We know that in the case of the flu, when it's a good year, we have like 70 to 75 percent protection from infection. And this is for many reasons.

First of all, a flu vaccine is a vaccine that contains protection against four different types—actually, now, three different types of flu, because one disappeared after COVID—three different type of flu. Experts will have to predict which flu is to be in the vaccine just based on sequencing data. So it's like they study all the viruses that were around, and they come up with a recipe. And sometimes this might not be 100 percent correct.

However, we have to say that even when it's not 100 percent effective to protect from infection, the flu vaccine will decrease the severity of the disease through other types of immunity to the disease itself. And we have to remember that influenza is not only causing the disease itself—so the runny nose, the joint pain—but also, it's really important to remember that influenza will worsen the underlying disease. If someone has diabetes, if someone has asthma, if someone has a cardiovascular disease, influenza will worsen also those conditions. And therefore, we are not only preventing influenza but also preventing the complications by getting vaccinated.

Dr. Turck:
And given that worries about vaccine ingredients, particularly thimerosal, also come up in conversations, what should we know about the presence of thimerosal in available vaccines? And how can we reassure our patients or their parents or caregivers who are concerned about safety?

Dr. Salvatore:
So, first of all, let me frame what thimerosal is. Thimerosal is a preservative. It was added in the vaccine as a preservative, and is a derivative of mercury. We know that mercury is all over, and actually, thimerosal is a type of mercury that is called ethyl mercury that does not accumulate; it gets eliminated by the body. And this differs from methyl mercury that is in fish that instead accumulates.

In addition of this, this thimerosal was only in the multi-dose vaccine to preserve it in case you have to inject the vial five times to distribute the vaccine to different people. And in 2001, CDC, as extra safety, not because there was evidence—again, there is no evidence that showed thimerosal causes harm to people—but already at that time, it was taken out of all the single-dose vaccines. So the flu vaccine was already in single doses that did not contain thimerosal. So the vaccines that people were getting in other doctor's offices or wherever else did not contain thimerosal, only the multi-dose vials.

However, the latest ACIP recommendation said that only single-dose vials—so thimerosal-free—should be used. So everybody this year will receive the vaccine—and probably like 99 percent of people last year as well—will receive the thimerosal-free vaccine. So this concern is not a concern that should prevent people from getting the vaccine.

Dr. Turck:
For those just tuning in, you're listening to *VacciNation* on ReachMD. I'm Dr. Charles Turck, and I'm speaking with Dr. Mirella Salvatore about practical ways to address misinformation about the flu vaccine.

So Dr. Salvatore, now that we've discussed some common myths, let's think big picture for a moment. When we're talking to a patient who refuses a flu shot for broader, more ideological reasons, what communication strategies can help keep the door open for future change?

Dr. Salvatore:
I think that there are always two types of vaccine refusal. So there are some patients—I mean, we as patients and as parents, are always concerned about medications. And so there is a part of the population of patients that want really to know about vaccines and about thimerosal, because there is a lot of misinformation around. So we really need to keep informing and sending the right message. Why the flu vaccine? How is the flu vaccine done, and why is it beneficial?

And so many people have concerns because, for example, a pregnant woman is always scared about hurting the baby. But actually, the flu vaccine in pregnancy prevents flu in the baby.

So clearly, in that case, vaccine refusal may just mean not being informed enough. So in those people, we just need to inform more.

And in everybody else who has sometimes almost an anti-vaccine faith, we can just, I think, reinforce science—because that's the only thing we can do—and address the concern that people can have. And then I think this is our best.

Dr. Turck:
Now, before we wrap up our program, Dr. Salvatore, do you have any final thoughts you'd like to share with our audience?

Dr. Salvatore:
I really think that the point that we were talking earlier about influenza and other diseases is really not addressed enough right now in the population. There are data that show that, for example, people can have a higher incidence of heart attack the week after they have a flu episode. They can have myocarditis. Say, if you are an asthmatic or you have COPD, you can have a permanent damage in the airway after a severe flu.

And there are even recent papers that show that influenza vaccination can really help prevent severe complications of influenza outside of influenza itself.

So I think this is a point that is really important to carry out and to have people understand: you are not only protecting yourself from the flu, you are also protecting yourself from complications of your underlying disease—mostly for people that are immunocompromised, older, pregnant, or at the extreme of life.

Every year there are children that are healthy that die of influenza because of refusal of influenza vaccine. Maybe not a lot like some people think, but in my opinion, one child that dies of a preventable disease is a child too many. And so I think that we really need to think about this. And we know that school brings back every single respiratory virus possible. So if we can prevent influenza, I think it's a great thing.

Dr. Turck:
Such important comments for us to consider as we come to the end of today's program. And I want to thank my guest, Dr. Mirella Salvatore, for joining me to discuss how we can effectively tackle myths about the flu vaccine. Dr. Salvatore, it was great having you on the program.

Dr. Salvatore:
Thank you so much, and thanks for inviting me to speak about this very important topic.

Announcer:
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