

## **Episode 29 Transcript**

### **Tamar Rodney**

Hi, I'm Tina Rodney, and you're listening to On the Pulse, a podcast from the Johns Hopkins School of Nursing. On this podcast, we take a deep dive into the experiences of frontline providers and researchers. We explore their insights and invaluable stories of how health care works in today's world in recognition of National Immunization Awareness Month. Our guest is Dominique Gill, a researcher who is investigating the HPV vaccine in women.

Her research focuses on driver's vaccination among Haitian immigrant women and understanding how cultural influences and risk perception of cervical cancer affect engagement with vaccination. She has also worked on studies with the International Vaccine Access Center, exploring challenges and facilitators of HPV vaccination coverage in low and middle income countries. In addition, Dominique is a Ph.D. candidate at the Johns Hopkins School of Nursing.

Welcome, Dominique.

### **Dominique Guillaume**

Thank you. Dr. Rodney It's a pleasure to have the opportunity to speak to you today.

### **Tamar Rodney**

So how about we start off with can you tell us why are you studying the HPV vaccine and what exactly is the HPV vaccine and who is it recommended for and why?

### **Dominique Guillaume**

So HPV stands for human papillomavirus and it is transmitted sexually and also through close skin to skin contact. And HPV is the primary cause of cervical cancer. So globally, over 90% of cervical cancers are attributable to infection with high risk strains of HPV. In addition, HPV causes other forms of cancer, including penile, rectal, vaginal, vulva, esophageal, and head and neck cancers.

So the vaccine itself was developed in 2006, and as of current, there are three types of vaccines available. You have the Bivalent vaccine, which protects against two high risk strains of HPV, the quadrivalent vaccine, which protects against four high risk strains, and then the nonavalent vaccine, which protects against nine high risk strains of HPV. So currently in the United States and in more-so high income countries, the nonavalent vaccine is available. In low and middle income countries, the bivalent and quadrivalent vaccines are available. And there's been a lot of discussion in terms of how to really get the nonavalent vaccine accessible to low and middle income countries settings as well. The reason why I am studying the HPV vaccine is because it is the primary cause of cervical cancer and it is the primary prevention method.

The HPV vaccine itself is the primary prevention method for cervical cancer. However, uptake globally is relatively inadequate. And so that's what really drove my interest in looking at the vaccine uptake and intention amongst high risk communities. So in regards to the population that it is recommended for the target communities for HPV vaccination, it is approved for individuals between 9 to 26 years old and that age was actually extended to up to 45 years old as of recent.

So initially when the vaccine was developed, it only individuals between 9 to 26 could receive it. Now, individuals between 26 to 45 can receive it in consultation with a clinician. However, it is more effective when it is administered prior to sexual debut. In addition, there is a lot of recommendation as a strong push to ensure that individuals who are immunocompromised, particularly those living with HIV, are adequately vaccinated because their risk of acquiring HPV related cancers is significantly higher than that of the general population.

**Tamar Rodney**

Dominique, that's a lot of information, which is incredibly important. And if I could just ask you for two clarifying pieces. So are you saying that although this is primarily targeted towards women, men could also be affected?

**Dominique Guillaume**

Yes. So HPV can cause certain cancers amongst men such as rectal, penile and oropharyngeal cancers. So it is also important for men to be vaccinated. Unfortunately, there's not. I would say as of recent, there's been a push to ensure all men are vaccinated, but in the past it's primarily been focused on woman. So that gap really needs to be addressed.

**Tamar Rodney**

Thank you. Thank you for clarifying that. And then you mentioned multiple different vaccines. Bivalent. And I think you also said nonavalent and quadrivalent. Is that a combination of one? Two? Nine? Four? What does the bi- and nonavalent mean?

**Dominique Guillaume**

Yes. So for the bivalent, it only protects against two high risk strains of HPV. There are multiple high risk strains, but the Bivalent only protects against two. The quadrivalent only protects against four. So those are available in low and middle income countries settings. But it's not the best of the best. The nonavalent vaccine is the best vaccine because it covers against nine different forms of high risk strains of HPV, and that tends to be only available in high income countries such as the US.

So while you have some countries that are LMIC's that have access to the vaccine itself, it tends to be the bivalent and the quadrivalent vaccine.

**Tamar Rodney**

Okay, great. Thank you for that. Clearly a topic that I think our listeners are going to have immense interest in. And so another question for you before we go on to what I originally thought I was going to ask you. You also mentioned that it's most effective if it's taken before sexual debut, but we've also had approval for it to be up to age 45.

If you've had the vaccine long after your sexual debut, how effective is that vaccine then, or what is the most important time to take it? If there's one that can be identified.

### **Dominique Guillaume**

There's still efficacy after sexual debut. However, the best timeframe is prior to sexual debut, because after sexual debut, you more than likely have already been exposed to HPV. So it's best when you haven't engaged in sex, which is why the age range goes down so low to nine years old. And as a matter of fact, there's a current study ongoing by Merck Pharmaceuticals to look at the safety and immunogenicity for individuals as young as four years old.

So really pre-adolescents are the target age range. But if you do get it after sexual debut, then there's still some efficacy. However, as I said, not as potent as prior to sexual debut.

### **Tamar Rodney**

Thank you for clarifying those. So the role of a clinician becomes extremely important in providing information is what we're saying, especially when kids parents are engaging in health care. So we know a lot more about vaccines now, but we also have a lot more mistrust about vaccine, particularly in light of the COVID 19 pandemic. But HPV vaccine has been most widely accepted, is accepted as safe.

Have you noticed any change in HPV vaccine since the pandemic, or as a result of the pandemic?

### **Dominique Guillaume**

Yes. And I also would say, interestingly, the HPV vaccine, there's been a lot of hesitancy even before the COVID 19 pandemic and COVID 19 itself amplified that. So prior to COVID, a lot of parents were deterred to vaccinate their kids, and that was mainly because the vaccine itself was framed as a STI prevention vaccine. So there was this notion of why would I vaccinate my nine year old from a condition that is spread sexually?

Instead of framing it as a cancer prevention vaccine. So now a lot of parents continue to be deterred to vaccinate their kids. There was a recent study published in JAMA that analyzed data from 2015 to 2018 that showed that parents continue to be deterred to vaccinate their children against HPV. Now, with COVID, that's been further amplified, I don't know the exact data in regards to how much hesitancy has been amplified, but there's been a lot of anecdotal evidence that has implicated COVID 19 as being one of the factors that's resulted in low HPV vaccination uptake, both in high income country and low and middle income country settings.

### **Tamar Rodney**

And as we all know about vaccination and COVID affected specific population. And interestingly, you have chosen a population that has been hit by both. So can you tell us a little bit more about what your research entails, specifically with the Haitian immigrant women? And what are some of the cultural influences that impact vaccination within this group?

### **Dominique Guillaume**

So Haiti has one of the highest rates of cervical cancer in Latin America. It has the highest rate of cervical cancer in the Caribbean. A lot of global organizations have indicated that Haiti may actually have one of the highest rates of cervical cancer incidence and mortality globally. So that risk is also prevalent amongst Haitian migrants here in the United States.

### **Dominique Guillaume**

And I also want to mention that the HPV vaccine itself is not publicly available in Haiti. So you have this risk of cervical cancer amongst newly arrived migrants here in the United States. However, there hasn't really been a lot of work done to get a deeper understanding of some of the underlying drivers of that risk. So my work, which is focused in South Florida, which has the largest number of Haitian migrants in the US explores women's risk perception towards cervical cancer and their cultural beliefs that may influence their decisions to engage in cervical cancer prevention behaviors, including HPV vaccines.

### **Tamar Rodney**

From what you've done so far, what are some of the concerns that they might have expressed as to why they would not want to receive the vaccine?

### **Dominique Guillaume**

So there's been a lot of interesting findings so far. Right now, I'm doing qualitative interviews with my participants. And off the bat, there is low knowledge, which is expected mainly because, as I said, the vaccine does not exist in Haiti. There's not a lot of prioritization of cervical cancer within Haiti. So people are coming in with their baseline knowledge levels.

However, what I found is that because there's a lack of knowledge, there's a lack of awareness. People use supernatural causes to explain cervical cancer and cancer in general. So the notion or the perception is, okay, you're telling me about this vaccine, but my belief is that this is a disease. Cervical cancer itself is a disease that someone with ill intent can throw on me.

So a disease that someone can send to me. So why would I engage in vaccination behaviors if I wouldn't be 100% protected? Because someone can always send this illness to me. There's a supernatural or mystical cause of the disease or explanation of the disease, which is something that needs to be addressed in order to really promote engagement in vaccination behaviors.

In addition, a lot of women use traditional gynecological health practices, so the use of plants, teas, and herbs for their gynecological health. So for instance, I have most of my participants, they described using certain herbs for vaginal cleansing and for them that is their way of preventing certain STIs, certain vaginal infections. And so once again, why would I engage in vaccination practices for something that I don't really have a lot of knowledge on?

I don't know anything about the vaccine. I don't know much about cervical cancer. But what I do know is that if I engage in traditional health practices, that will benefit me as opposed to getting the vaccine. So that's a lot of the barriers that I've witnessed so far in my research.

### **Tamar Rodney**

So interesting. So there's a lot of cultural understanding that has to take place first before we can even get to offering information. And if I can just put this with how we treated the COVID vaccine, it was developed as a response to a public health problem. And so it's evolving vaccine. But HPV vaccine was developed under entirely different circumstances.

How might individual trust that information related to HPV vaccine, comparative to how they might treat the COVID vaccine?

**Dominique Guillaume**

I think a lot of it comes down to getting the information from a trusted source and time and time again, whether that's within research studies, whether that's outside of research. It's been reported that individuals trust their health care providers. So I think that's one area that needs to really be addressed in terms of ensuring that people are getting accurate information from the individuals that they do trust.

I also think there's a lot of work that needs to be done in dispelling misinformation, but I think a lot of work has been done for addressing misinformation for COVID. And while some work has been done for HPV vaccines, there could be more effort towards that, more momentum because once again, a lot of people believe in misconceptions and myths towards the disease itself, towards the vaccine itself.

And a lot of people are getting their information from social media platforms such as Tik Tok and Instagram, which has been potentially aiding the spread of misinformation overall.

**Tamar Rodney**

That is very true. I would say a lot of people get their information from everywhere else except their clinicians, but that also puts a huge responsibility on our clinicians, researchers like yourself as well as other public health professionals. How should they respond when there is vaccine hesitancy?

**Dominique Guillaume**

I think that's a really great question because it makes me think of my work clinically. Both clinically and in research, because I currently practice as an infectious disease nurse practitioner and throughout my daily practice I see vaccine hesitancy with my patients. And the best thing that I can do as a clinician is provide the correct information for my patients, even if they do not agree to get the vaccine, even if they're deterred to get the vaccine.

My job is to give them the correct information and to empower them. If they decide not to get the vaccine today, that's okay. At the next visit, I'm still going to do the same thing. Give them the information that they need to make an informed decision. Unfortunately, you can't convince everyone, but as a clinician, I do my part by educating everyone and giving them the information that they need to make an informed decision.

And that also translates to a research setting as well.

**Tamar Rodney**

That's really powerful advice. Thank you for sharing that and in a global context, would you say there are any differences in how vaccine hesitancy and uptake of the vaccine might be comparative to what's happening in the United States?

**Dominique Guillaume**

In terms of uptake and in terms of hesitancy from a global setting to comparing that to the United States. There are some differences in terms of specifically for the HPV vaccine in regards to coverage rates. So when looking specifically at HPV vaccination coverage rates by far are superior in countries such as the United States compared to low and middle income countries.

However, hesitancy has been reported in both high income countries settings and low and middle income countries settings, both amongst parents and amongst adolescents as well. So I think one of the issues too, when looking at the difference in coverage rates amongst both settings is the fact that you also have to consider other underlying factors such as health system barriers, health infrastructure, etc. supply and demand of vaccines so that can contribute to some of the differences that we see in coverage rates.

But nevertheless, hesitancy is still prevalent within both settings and needs to be adequately addressed.

### **Tamar Rodney**

So we have globally, we have a lot of work to do, not just the United States. Okay. Yeah. So, Dominique, you do a lot of things, I would say extremely busy. A PhD candidate, practicing clinician. But we also mentioned that you do work with the International Vaccine Access Center. What exactly is this and what is your role in that work?

### **Dominique Guillaume**

Yes, So the International Vaccine Access Center is based in the Bloomberg School of Public Health. And the work that I do is in collaboration with Jhpiego, which is Johns Hopkins International Educational Program for Obstetrics and Gynecology. I'm a fellow with Jhpiego. And so my vaccination research outside of my dissertation has been a joint effort between Jhpiego and the International Vaccine Access Center.

The work that we've done is more so upstream. So it's really looked at some of the factors that can impact introduction of HPV vaccines in low and middle income countries settings, particularly within sub-Saharan Africa and Southeast Asia. So, for instance, we've done studies in Tanzania where we worked on evaluating the feasibility and sustainability of a school based vaccination program.

We've done studies looking at global stakeholders perspectives in regards to why a lot of countries are very slow in meeting HPV vaccination coverage rates. I worked on one of the studies interviewing individuals at the WHO, CDC, UNICEF and other global organizations that prioritize vaccination work. So as I said, it's more so upstream, which is really great because it's given me I truly believe that my experience has been comprehensive in that my clinical work and my dissertation work is more downstream patient facing, and my work with IVAC and my work with Jhpiego more so upstream from a policy level.

So it's it's really interesting to be able to combine the two and see what the connection is between upstream and downstream determinants for HPV vaccines.

### **Tamar Rodney**

That's a wonderful opportunity that you get to have. And in consideration of HPV itself or the vaccine. Are there any final thoughts that you would share to our listeners?

**Dominique Guillaume**

I would say I think for those who are working directly with patients, especially making sure that patients are adequately informed and educated. I think there's been such a focus towards COVID and other vaccines have kind of fallen on the wayside and aren't as prioritized. However, there's a global burden of cervical cancer, especially amongst high risk communities, and there's a need to educate communities who are at risk.

And so ensuring that people have the correct information is important. So that's one thing that I really would emphasize. Yes, COVID is important, but there are other disease states that are equally as important as well.

**Tamar Rodney**

I think that's an excellent message to leave with our listeners. Dominique, thank you so much for sharing your knowledge on the HPV vaccine. We appreciate all the work you're doing, both upstream and downstream, to inform individuals and communities about vaccination. Vaccines of all kinds are important to public health, and it's important that health professionals provide open and honest information in order for us to live healthy and in flourishing societies.

So thank you again for joining us.

**Dominique Guillaume**

Thank you, Dr. Rodney. It was a pleasure to have the opportunity to chat with you today.

**Tamar Rodney**

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