

GOING VIRAL: COVID-19 and Obesity
with
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EPISODE 2: Prevention and Diagnosis

ADRIAN BANNING: Hello, and welcome, my name is Adrian Banning, Doctor of Health Science, PA-C. I'm a faculty member in the PA program at the Delaware Valley University PA Program, and I'm also a PA researcher. And today I'm here with Going Viral, COVID-19 and Obesity. This is a podcast series developed by the American Academy of Physician Associates and it's supported by an independent educational grant from Pfizer.

The first season of Going Viral focused on providing patient centered education and resources to PAs on the testing, diagnosis and treatment of COVID-19. We hope you tuned in. In this new season, through a four-part series, we'll be diving deeper into the importance of diagnosing and treating COVID for an especially at-risk population group, those managing obesity and other metabolic conditions.

The COVID-19 pandemic is entering its fourth year, and while we have tools to prevent and treat the virus, COVID will be here to stay, even once the pandemic is officially over.

There's an urgent need to remind healthcare professionals and patients of the importance of COVID-19 diagnosis and treatment, especially for those at high risk for severe disease, such as those managing obesity and other metabolic conditions.

Throughout the pandemic, PAs have played a critical role in helping combat COVID-19. As diagnosis and treatments shifts to the outpatient setting, PAs are still ready, still here to meet the challenges on the frontlines. This is just one episode in a four-part series, focused on COVID-19 and metabolic disorders. So, make sure to check out the other three.

Today, I am proud to be joined again by Angela Thatcher, PA-C and owner of Lifelong Health & Wellness, and Sampath or Sam Wijesinghe, DHSC PA-C member of the American Academy of HIV Specialists, and a clinical assistant professor of medicine at Stanford University. Dr. Sam Wijesinghe is the editor/author of *101 Primary Care Case Studies*. That's a lot of case studies.

In addition to being a clinical assistant professor he is also the director of career development at the MSPA Program at Stanford School of Medicine. He practices primary care and HIV medicine at Adventist Health Central Valley Network. His clinical interests include primary care medicine, infectious diseases, HIV medicine, and global health.

Angela Thatcher is an obesity medicine PA in North Carolina. She holds the Certificate of Advanced Education in Obesity Medicine, through the Obesity Medicine Association, and is a faculty member with the AAPA Obesity Community of Practice. Prior to opening her own practice last year, she worked in rural family medicine and urgent care. Welcome to you both, we're so glad to have you here.

ANGELA THATCHER: Thank you, Adrian. It's great to be here.

DR. SAM WIJESINGHE: Thank you, Adrian.

ADRIAN BANNING: So our first question is this: Starting with prevention, what steps can a patient managing obesity or diabetes take to prevent COVID-19 infection?

DR. SAM WIJESINGHE: First and foremost, I would say please get vaccinated. COVID-19 vaccines have shown to be effective in reducing the risk of infection, severe illness, and death from COVID-19, including for people with obesity. So we are very aware of this.

And I also would like to add vaccine recommendations like boosters, they come up with new boosters. So talk to your healthcare providers, or talk to your pharmacists, then they will be able to guide with the right booster at the right time.

And then, practice good hand hygiene. Washing hands frequently with soap and water for at least 20 seconds can help reduce the risk of infection. If soap and water are not available, use a hand sanitizer that contains at least 60% of alcohol. And then finally, I would like to add, wear a mask. Wearing a mask can help prevent the spread of COVID-19, especially in crowded indoor settings or when it's difficult to maintain physical distance such as on public transportation.

I know that when I ask someone to wear the mask, they are like, "Oh, really, we have to do this again?" I know that has been a difficult thing to do for a long time. We have been dealing with COVID more than three years now. There was a time that we had to wear the masks all the time, and now when somebody is hesitant to wear the mask I tell them, I know it is hard, but at least you don't have to wear that all the time like we used to do for two years.

ADRIAN BANNING: Great points that maybe some of us can take home to our patients too. Angela, what would you add to the prevention strategies?

ANGELA THATCHER: I think another big piece is just doing the things that we know can help support a healthy immune system. So encouraging healthy habits like eating a healthy diet that's got lots of fruits and vegetables and not a lot of processed foods. Getting enough sleep at night. For most people, that's at least seven hours. Being able to do things that help to manage your stress is also another big way to support your immune system. We know that chronic stress takes a big toll on our health, specifically on our immune system.

Being able to include regular physical activity. Those all are ways that we can help to keep our immune system strong. I think it's also important to stay in touch with your healthcare provider. If you have comorbidities that increase your risk for COVID-19 or for severe illness from COVID-19, it's important that you're doing the very best you can to manage those.

For example, we've seen demonstrated in studies that risks of severe illness with COVID are lowered in patients who have better control of their blood pressure, if they have hypertension. Or who have better control of their blood glucose if they have diabetes. So it's important to be maintaining that relationship so that you are optimizing your healthcare.

When you talked about masks, Sam, it made me think about social distancing, because that's also something that people don't think about as being necessary anymore. And it's not really being practiced probably in the big population. But it is important to remember that for individuals who are higher risk, maintaining some physical distancing can help to reduce the risk of COVID infection.

So staying at least six feet away from others, avoiding really large gatherings, especially if they're indoors, and like you said, Sam, if you are going to be in those situations, being able to use a mask when you're there.

ADRIAN BANNING: Really great points, Angela, thanks so much for reminding us that we can simply keep some distance between ourselves and others, especially if we're high risk.

So next question for conversation: Why is it important to know if a patient with obesity or other metabolic conditions has or has had COVID-19? Even if that individual is asymptomatic or just has mild symptoms? Angela, what do you think about that?

ANGELA THATCHER: Well, we know that patients with comorbidities have a compromised immune status, decreased disease resistance, and they're more likely to suffer from severe infection than those who don't have comorbidities. And more specifically, the number of comorbidities that a patient has is correlated with the increased risk of adverse events with COVID illness and other acute illnesses as well.

So it's important that, knowing that those patients are at a higher risk, we understand when they have COVID so that we can be doing the very best to optimize their healthcare. And knowing that we are seeing long-term effects of COVID, I think it's important to understand if that is a part of a person's medical history so that it's a part of our decision making and understanding their healthcare in total.

ADRIAN BANNING: So, Angela, is it that people with diabetes often have obesity? Not everyone with obesity has diabetes? Do they always go together, or can they be separate?



ANGELA THATCHER: I think it's important to recognize that these are independent risk factors. You're right that a large proportion, I've seen it estimated at 80 to 90% of patients with Type 2 diabetes do have overweight or obesity as well. But when studies have been done looking in a retrospective manner at these two risk factors in patients with COVID-19, we see that they are independent in terms of their risk. And they're not necessarily additive.

So with obesity, we see that there is a dysregulation in the immune system as well as this state of heightened chronic inflammation. And these combine to make a patient more susceptible to complications and have a suboptimal anti-viral response to the infection itself.

This is compounded by the reduced functional respiratory capacity in these patients, which also make them at higher risk for needing respiratory support when they have COVID-19. So that's the mechanism that we understand related to obesity.

When we look at diabetes, this appears to be more related to hyperglycemia. So when there is an increased plasma glucose level, we also see an increased risk of hospitalization from pneumonia.

My understanding there is that there's an interplay between glucose and the transporters that help clear interstitial edema and maintain the pulmonary epithelial and endothelial barriers that are important for good outcomes with COVID-19.

When we look at the fact that just infection itself, and in particular, severe infection, increases blood glucose levels in patients with diabetes, that's a very difficult cycle that is set up that increases risk specific to diabetes.

ADRIAN BANNING: So, having diabetes and elevated glucose impairs your kind of lung immune response. You get a more severe infection. But then that might make your glucose be even higher, and it becomes kind of a cyclical event where one's feeding into the other and it's just kind of getting worse.

ANGELA THATCHER: Very well said.

ADRIAN BANNING: Sam, that all sounds kind of complicated and that you're almost destined for a bad outcome, but is there anything that we can do to improve prognosis?

DR. SAM WIJESINGHE: Yes, I think going back to what Angela mentioned, these are independent risk factors. I have many patients with diabetes and obesity together, and then I have many patients, they just have diabetes. And then there are many patients that just have obesity.

If I can share an example. Recently I got a phone call from a patient who had COVID-19 and she did a test, and it was positive. She did her homework, read some information

on CDC, and then she found out she was at risk because of her BMI. She had BMI over 40.

And then she called me, and then said, you know, I am at risk for severe COVID-19 because of my weight, and I am within that five-day window, and is there any medication that I can start, and that is what I have been reading.

So, I actually was very happy to hear from her about that experience. She did her homework, reached out to me, and she knew she was at risk because of her obesity. And that was the only risk factor she had. Her other past medical history was unremarkable.

So, I think, just like that patient, if we can identify patients early within a few days since the symptoms began, and then start anti-viral medication, then we'll be able to help these patients lead into a better outcome, and then prognosis will be much better.

ADRIAN BANNING: Sam, what an engaged and empowered patient.

DR. SAM WIJESINGHE: I know. I was really surprised by that at the beginning. I was telling my other colleagues about that too. I think we have lots of reliable information out there that our citizens can go and visit and read, like CDC website, and NIH has great information too. So, I think as healthcare providers we can ask our patients to do that, and then ask our colleagues to go educate their patients about that.

ADRIAN BANNING: About your patient doing an at home test. We've had the pandemic around for a while, we've all been talking about testing, but maybe it's gotten a little bit blurry. What are the differences, Sam, between the diagnostic tests, and part B of that question, is there a preference for a certain test over another, particularly for those who are at increased risk of COVID-19?

DR. SAM WIJESINGHE: Yes, so we have two tests, PCR, and then we have antigen rapid tests. Now, PCR is still the gold standard. Depending on your practice, if you do a PCR test, that might take a few days to get the results. And now we have this PCR testing which you can actually get the results within a short amount of time too. That is a great test to have. In fact, that is what we use in our clinic, and that is very, very helpful.

And then rapid antigen test, that is the test that many people have at home. And that is okay, that's a reliable good test if you do it right, and also if you do it at the right time.

So normally I tell my patients, you can go ahead and do the rapid antigen test if you have some COVID-related symptoms. And then if it's a positive test, that's pretty reliable. We can safely say this patient is positive for COVID-19.

And then on the other hand, if somebody had exposure with someone with COVID-19 two days ago and the patient has no symptoms, then I would say PCR is the way to go

because your viral load in your body, we will be able to detect that earlier than antigen. So PCR will be a much better test at that point.

I'd also like to add, PCR tests are preferred generally because they are more likely to detect the virus than the antigen test and will provide more reliable negative result. And one other thing if I may add, PCR tests may continue to show a positive result for up to 90 days.

ADRIAN BANNING: Sam, that's an interesting point because a lot of people when they test positive might want to see a negative result before they resume their "normal" activities. Or sometimes school or work will require a negative result. Because you've got that PCR result positive for up to 90 days, does that mean the person, one, is still infected, or two, still infectious? Are they a risk to other people while that PCR is positive?

DR. SAM WIJESINGHE: This is an excellent question. This is a conversation I have with many patients, and even with many employers all the time. I explain to them the PCR tests continue to show positive, and that is why we actually discourage rapid testing to send them to either school or work.

So if they are asymptomatic, and then if they have no fever and no cough, we would clear them to go back to school or work. And so we really look at the big picture and look at their symptoms, and then give the work note or school note as appropriate.

ADRIAN BANNING: Angela, testing isn't just for when you know you're sick or for treatment. Can you talk to us a little bit about testing as a preventative measure?

ANGELA THATCHER: Yeah, over the course of the pandemic as testing options expanded and became more accessible, and the reporting time for these results improved, we began to use them more for prevention.

Because if we're able to test patients who have perhaps one of the symptoms that could be COVID, to confirm whether we are concerned about that or not, or even testing in some situations asymptomatic individuals, that allows us to prevent the spread of illness. Because if we know that a person has COVID, then we're able to give them advice on isolating and avoiding spreading that infection while they're contagious.

ADRIAN BANNING: And what about antibody tests. We've talked about PCR, we've talked about antigen, what's the role for antibody testing?

ANGELA THATCHER: So, there are antibody tests, but these actually have pretty limited value in the clinical setting. They really are better used when we're discussing things like public health surveillance or testing for conditions that are associated with COVID-19.

So, you're not going to see this really being ordered in the hospital or primary care setting most of the time.

ADRIAN BANNING: I think even for those of us trained in medicine, a lot of us had to go back and remind ourselves, okay, antigen, antibody, what's the difference, what are we looking for?

Even though we're professionals, we're still humans, we need some reminding every once in a while. Okay, so we've had the test, someone tests positive. Say this is a patient who has obesity or another type of metabolic condition. They test positive for COVID-19 either through the rapid at home antigen test, or they went to their provider, they had a PCR. Sam, what should they do next?

DR. SAM WIJESINGHE: Yes, I think the most important thing they should do, call their healthcare provider and discuss management and treatment options such as anti-viral.

A history of personal illness is very important, and what you're learning from your patient is very important. And then do the PCR only if it's necessary, otherwise you can go ahead and start antivirals as appropriate.

ADRIAN BANNING: So, I'm hearing you've got to keep the pre-test probability in mind. If you think the patient has COVID, they've been exposed to it, and they get a positive rapid antigen test at home, then they probably have COVID. But also, no tests are perfect and there's false positives and false negatives, and more false positives and more false negatives with a rapid antigen test than with the PCR.

So if you aren't really sure if they have it, your pre-test probability is maybe a little bit lower, then that's when you would follow up with a PCR after a rapid antigen test. Did I get that right?

DR. SAM WIJESINGHE: Yes, you did.

ADRIAN BANNING: Excellent, I love being right, so that's great. Angela, what if someone is already on other medications? Should they keep using them? What else should they do once they are thinking about going forward with COVID treatment?

ANGELA THATCHER: I think it's really important to point out that they should continue their long-term medications unless they're specifically advised to stop them for some reason. I frequently saw when I was working in the urgent care setting that patients would come in and have had a positive test at home and they would tell me that they had stopped different kind of routine medicines that they took because they were worried about potential interactions with medicines they were taking for their symptoms.

And it was important to explain that continuing to control their blood pressure and their blood sugar and continuing to treat their long-term conditions was very important in order to keep them safe while they were sick. So, unless they are advised otherwise, I would always recommend that they continue their long-term medicines.

ADRIAN BANNING: For any of us who have used an EMR, you put two medicines, it's going to pop up with a list of interactions, and I'm sure that's even scarier for someone who might be thinking about it, and perhaps even going to the internet to do some searching. Which is never a source of fear to any of our patients. So that's really great to just know, just keep on your current medications. Sam, what would you add to that?

DR. SAM WIJESINGHE: Because these treatments and COVID-19, all these are relatively new things that we are dealing with as primary care providers. So, I make sure that I use the drug-drug interaction checker. And our EMR has a system built up already. So the system itself is checking that. But I don't like to exclusively rely on that then. I use my own drug-drug interaction checker, and then I make sure it is okay to have antivirals while they are on long-term medications.

Just a couple of examples. If they are already on a statin, let's say atorvastatin, I would say, you know, this medication might be only for a few days, maybe like five days. So, I ask them to stop that statin during that time period, because it's a very short time. And then if they are on a calcium channel blocker for their hypertension, sometimes it can actually lower their high blood pressure.

These patients might experience hypotension. So, I ask my patients to monitor their blood pressure while they are taking a calcium channel blocker and antiviral. So, lots of education to be done and to do it right.

ANGELA THATCHER: Sam, I think that's an excellent point about the importance of providing patient education when we are treating patients and prescribing medicines that are perhaps the antivirals or even medicines to manage symptoms.

I think another important piece of patient education when we are seeing a patient who has a current COVID-19 infection is to also talk to them about severe symptoms that would necessitate emergency help. You mentioned fear when you were talking about the potential for interactions and looking at things, information on the internet. And I think fear is a big thing that's important for us to acknowledge with this particular illness.

And a lot of patients have the question of, how do I know when I would need to go to the hospital? So, I think it's important to include that in our patient education when we're seeing someone who has an acute infection. I usually try to get them very specific things to look for.

Like it would warrant calling 911 if they had any symptoms of a stroke or a heart attack, and even review what those specific symptoms are. As well as if they're having significant shortness of breath or chest pain. If they feel very dizzy or they feel weak. Those are all things that would necessitate emergency evaluation.

ADRIAN BANNING: Angela, thank you so much for reviewing those really important features and what we should think about when something goes from regular COVID,

which is still not great, to something more severe that's going to require emergency help. And a good reminder on the patient education that goes into that too.

ADRIAN BANNING: Thank you Angela and Sam for joining this discussion about COVID-19 prevention and diagnosis in patients with obesity and other metabolic disorders.

ANGELA THATCHER: Thank you, Adrian. Thanks, Sam.

DR. SAM WIJESINGHE: Thank you, Angela and Adrian.

ADRIAN BANNING: There are three other episodes in this series. One assessing risk, another on treatment best practices, and a fourth on communicating with patients. We encourage you to listen to all four, as well as to check out the supporting one-pagers that go along with these podcasts. Thanks so much.

