Dr. Robert Falcone:

Hi. I'm Bob Falcone, CEO of the Columbus Medical Association and affiliates. Today, we have a panel of experts to discuss the long-term sequela of COVID-19 infection, also known as the COVID Long Haul Syndrome. Our next panelist is Dr. Kevin Johns. Dr. Johns is an assistant professor of psychiatry at the Ohio State University Wexner Medical Center and a co-director of integrative medicine. Dr. Johns is particularly interested in the psychiatric dysfunction of chronic illness. Dr. Johns, welcome.

Dr. Kevin Johns:

Thank you for having me.

Dr. Robert Falcone:

As you know, we're talking about COVID. Let's start with the in-patients. What are you seeing with the COVID in-patients, whether they're seriously ill or moderately ill?

Dr. Kevin Johns:

Yeah. So with the in-patient consults that we're seeing, unfortunately, there's a pretty wide range of neuropsychiatric sequelae that they're experiencing. Some of them unfortunately are developing pretty severe delirium or encephalopathy where they get really confused and kind of forget where they are, hallucinate, things like that. We've also had patients become catatonic. We've had some patients who developed other neurological issues like seizures or strokes as a complication of COVID in the hospital. And then on top of that, there's also just the psychological impact of being hospitalized with COVID and being isolated from all your friends and family. Unlike other illnesses, when people were hospitalized for COVID, they couldn't have any visitors, even the doctors and nurses had to gown up in PPE and protective gear to go in and see the patients. So it's a very isolating experience. So I think on top of the delirium and other neurological complications, there's also the psychological impact of the isolation and the fear of having a new disease that people are just learning about.

Dr. Robert Falcone:

Is the delirium different than the not uncommon ICU psychosis we see with serious seriously ill patients?

Dr. Kevin Johns:

I think it is. In my experience, the patients with delirium, they tend to take longer to kind of reboot or kind of recover from that delirium. So I've seen patients who were in the ICU with COVID, even long after their respiratory status is normalized and all their other COVID symptoms have gone away, that delirium is just really persistent and won't go away for awhile. So it tends to linger much longer than delirium from other causes in my experience.

Dr. Robert Falcone:

How do you treat these people?

Dr. Kevin Johns:

So the treatment is similarly to other types of delirium. We try to correct the underlying medical problems if possible. With many cases with these COVID patients, it's already being done. Their respiratory status is already improving, but we try to look and see are we missing anything, is there a urinary tract infection or something else that could be contributing. We do a lot of environmental

modification, making sure their sleep/wake cycle is normal, trying not to disturb them at night, friendly, familiar faces during the day. And then there's also a role for medications as well in delirium. So we do use medications to help with some of these symptoms too.

Dr. Robert Falcone:

Tell me about the strokes. Those sound unique to COVID.

Dr. Kevin Johns:

Yeah. Yeah. Unfortunately, many COVID patients have developed kind of hypercoagulability syndromes and developed strokes, and that in itself can lead to lots of neuropsychiatric sequelae.

Dr. Robert Falcone:

I imagine. Let's switch to the people that are not hospitalized, but a week, two weeks, a month after they've had their COVID episode and recovered, they have continuing sequelae. What are you seeing there?

Dr. Kevin Johns:

So we're seeing a pretty broad mix, a lot of things. Some patients develop kind of worsening of pre-existing mental illness. So for example, if they already had depression or anxiety, after getting COVID, it can get worse. We're also seeing patients with new onset diagnoses after developing COVID. So no previous history of depression, but then they get COVID and afterwards they develop a depression or anxiety disorder. Some patients can develop PTSD or PTSD-like symptoms from being cared for in the ICU and surviving a critical illness. We're also seeing quite a few patients who have these kind of cognitive complaints where they feel like they just can't focus quite as well as they used to, their memory is not as sharp. So even after all the other symptoms have gone away and they've gone back to work, they find that they just can't perform cognitively at the level that they used to. So those are some of the things that we're seeing.

Dr. Robert Falcone:

I would assume that you treat depression like you would treat any depression, but tell me more about these cognitive dysfunction. So I've heard them called brain fog. What do you do for them?

Dr. Kevin Johns:

Yeah. It can be very, very devastating. It can be hard to diagnose, hard to catch. So we try to screen these patients early on, and then we try to refer them to our neuropsychologist. We have a group of neuropsychologist here at Ohio State who are doing cognitive testing in patients who are recovering from COVID-19, and they're helping to develop individualized plans to help them recover cognitively.

Dr. Robert Falcone:

Kind of like brain rehab or occupational therapy and some of the other modalities we use for other people with the same kind of symptoms.

Dr. Kevin Johns:

Yeah. Exactly.

Dr. Robert Falcone:

Most of these people are cared for in primary care offices. When should the primary care physician be concerned about some of these psychiatric issues? And when should they ask them to see a psychiatrist?

Dr. Kevin Johns:

That's a good question. Unfortunately in the field of psychiatry, there is a huge shortage of psychiatrists in the community. So oftentimes primary care, they are the first line of defense and referral can be really challenging, especially in more rural areas of the country. So that being said, I think any time that the symptoms fail to respond to therapies that the primary care provider is comfortable with using, for example, [inaudible 00:06:58] common antidepressants. If there's concerning symptoms like concerns for mania or suicidal ideation, self-harm, these kinds of things, it would be a good idea for the patient to be referred to a higher level of care.

Dr. Robert Falcone:

That makes complete sense. So if they're comfortable with antidepressants and the patient's depressed, that seems to be reasonable. If they have opportunity to send people to occupational therapy or neuropsychiatric cognitive evaluation therapy, then that's probably a good bet for some of those symptoms. How about people that are just have continued lassitude and fatigue and weakness? Is any of that psychiatric overlay? Or is that more physical?

Dr. Kevin Johns:

I think anytime with these patients with chronic illnesses with difficult to explain symptoms, that optimizing their mental health is a critical part of their recovery. Similar to, for example, patients with fibromyalgia or chronic fatigue syndrome, having a robust mechanism in place to screen for things like depression, anxiety, substance use, things that could be contributing to these symptoms, it's really important and having a way to get the patients to treatment.

Dr. Robert Falcone:

So it sounds like things that most family doctors are doing now. They're treating the whole patient and making sure that everything is good as it can get before they get down and dirty on the psychiatric issues. Does that sound about right?

Dr. Kevin Johns:

Yeah. Yeah. The depression, anxiety, they can basically worsen outcomes in virtually any illness that they're paired up with. So anytime that you have these chronic illnesses, whether it's things like fibromyalgia or diabetes, optimizing depression is always going to be something that could go a long way in helping the patient recover, especially when it's something where there's not a quick treatment to cure the illness or make it go away.

Dr. Robert Falcone:

In your experience, do most of these people get better? And if so, how long does it take?

Dr. Kevin Johns:

That's a good question. I think it's probably a little too early to tell right now. I think that story is still being written as we speak. I would expect that some of these people will get better. My concern is that some of these patients may develop more long-term symptoms and there's going to be a lot more research coming down the pipeline to figure out how to help these people.

Dr. Robert Falcone:

Well, this has been great. Is there anything we've missed?

Dr. Kevin Johns:

I think I would just echo that the most important thing at this point is to take a holistic approach, treat the whole patient. Like you said. Here at Ohio State, whenever a patient is discharged from the hospital after being diagnosed with COVID-19, we have a transition of care group that reaches out to the patient and they'll screen the patient for depression, anxiety. And then if they screen positive, we can enroll them into a collaborative care program or the internal medicine doctor can collaborate with the psychiatrist and the social work care manager to treat the patient in a team-based approach. So having creative ways to screen and rapidly identify the psychiatric symptoms in patients with COVID-19 or recovering from COVID-19, I think is going to be really important in the long run.

Dr. Robert Falcone:

Great. This has been really informative. Thank you for your time.

Dr. Kevin Johns:

Thank you.