You First Episode 26: COVID-19, the ICU, and Mental Health

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It's May, which means it's Mental Health Awareness Month. After you listen to this podcast episode, visit our blog at disabilityrightsflorida.org/blog for more content related to mental health throughout the month. Now, let's look at COVID-19 through the lens of mental health.

I'm sure a few things immediately come to mind, such as the depression and anxiety that can come from isolation during quarantine, or the stress and trauma of losing a loved one due to the pandemic.

Less obvious, but most certainly on the rise due to COVID, is something called post-intensive care syndrome or PICS, P-I-C-S. PICS was identified years before the pandemic, along with great strategies to reduce the chances that someone in intensive care would develop complications related to it. COVID-19 has changed that, as ICUs became overcrowded and staff overtaxed.

To talk more about that today is Dr. Megan Hosey, an assistant professor of physical medicine and rehabilitation at Johns Hopkins School of Medicine. Megan is a clinical psychologist who cares for critically ill patients and collaborates in research on ICU care and outcomes after critical illness.

Hi, Megan. Thanks so much for being our guest today. The topic is of course post-intensive care syndrome or PICS, which has come into light in the past year due to COIVD-19, but in fact, was identified approximately 10 years before the pandemic. Can you give us a general sense of what PICS is?

Dr. Megan Hosey: Sure. Post-intensive care syndrome is a collection of symptoms that people who've survived critical illness tell us their experience. From a mental health perspective, this can look like symptoms of anxiety, depression, post-traumatic stress disorder.

From a cognitive perspective, we see new changes or worsening changes in things like attention, learning, memory, and what we call executive dysfunction, which means difficulty taking new information and organizing it in a way that makes it easy to do day-to-day things.

Those are the cognitive and mental health aspects of PICS. PICS is a term that we use because many patients who had survived critical illness returned to researchers and let us know that even

though they'd survived, the cure for the critical illness or the recovery from the critical illness were two separate topics.

They wanted everyone to be aware that just the acute treatment for a critical illness isn't necessarily the end.

Keith: Are there specific risk factors that might increase someone's chances of developing symptoms related to PICS?

Dr. Hosey: Yeah. People who have had experiences with anxiety or depression before may be at risk for a recurrence or a worsening of those symptoms. We know that's a potential risk factor.

People who have preexisting frailty, which is a way of saying deconditioning or limited activity prior to critical illness might see a worsening of that. Certainly, people who have a baseline history of dementia or a mild cognitive impairment, again, might see a worsening of those conditions after a critical illness.

Those are some risk factors, but we know that PICS can happen in many people, even if they didn't have those preexisting risk factors.

Keith: In doing some research for this episode, I see a lot about ICU delirium, and that being, essentially, one of the primary things that can occur while someone's in an ICU and will later cause a lot of these PICS related issues.

Can you tell us a little bit about what ICU delirium is or what that's like for a patient?

Dr. Hosey: ICU delirium is something that can happen up to 80 percent of people who are mechanically ventilated or who need assistance in breathing. Hospital-wide, we see it in about 30 to 40 percent of patients.

ICU delirium is caused by a variety of things, including infections, new medications, being in a strange, different environment, sleep disturbance, pain. All of these are factors that can increase risk for having ICU delirium.

What ICU delirium is is really, we think, an acute medical exacerbation that results in people having difficulty telling what's a dream and what's real, having hallucinations or delusions, including fear that hospital providers might be trying to harm them or misinterpreting medical equipment for other things.

For example, patients tell us the IVs and IV poles become snakes. Catheterizations become sexual assaults. It can be a very scary experience for patients.

We know that having delirium can be a risk factor for cognitive impairments later. Particularly what we find is that there's...The fancy term is dose response, meaning the longer someone is delirious, the more likely they are to experience a cognitive impairment later.

Keith: When someone's in the ICU, they're obviously there for some specific reason, like the acute illness or issue, injury, whatever it could be that occurred. Does that person's susceptibility to PICS also affect their recovery from whatever it is they're in the ICU for in the first place?

Dr. Hosey: It kind of depends. There are also physical aspects of PICS, which are better covered by my physician colleagues. This can include new muscle weakness.

What we know is that sometimes people might have differences in new physical weaknesses that are accounted for by the reason they went into the ICU.

Interestingly, cause of ICU in critical illness is not consistently correlated with mental health or cognitive outcomes, meaning if you came to the ICU because you had the flu, if you came to the ICU because you had a traumatic injury, if you came to the ICU because you had a severe asthma attack, there's no distinction among those folks in their cognitive or mental health outcomes.

Folks are equally at risk.

Keith: That's fascinating.

There's a family related...PICS can affect not just the patient, but also the family. I think that's something called PICS-F. Can you tell us a little about that?

Dr. Hosey: That's right. Most of the research right now on PICS Family is related to mental health outcomes. What we know is that people who are family members of ICU survivors can also experience anxiety, depression, and post-traumatic stress disorder, depending upon what their family member has gone through in the intensive care unit.

In the critical care community, there's been a really large move to try to include family members in the intensive care unit experience to help the patient, to help the family, and also to set people up for a recovery trajectory that will happen together.

Keith: What are some of the traditional ways that ICU staff might attempt to prevent the development of PICS in their patients?

Dr. Hosey: This has been a really inspiring set of research done by some really pioneering critical care doctors, nurses, and rehab professionals.

We used to believe that to help the mental health and the recovery of the patient while they were critically ill we should sedate them and leave them to just rest. Now, as we mentioned earlier, these patients are surviving at a much higher rate.

When they come back to us, they tell us when you thought I was quietly resting and sleeping there, what was actually happening is I was having delirium. I was acquiring new weakness related to bed rest.

Keith: Oh, no.

Dr. Hosey: Most of the research we're had over the past 10 to 20 years suggests that we really want to reduce sedation, increase people's being awake, and help them get to move as soon as they have what we call cardiopulmonary stability.

Meaning, as soon as we think that your lungs and your heart can take it, we want to get you up to the edge of the bed, or hopefully walking and doing things that you love.

Those are the broad strokes that we're moving towards. As you mentioned, we're also seeing the importance of family at the bedside, so families can help patients talk about things that are meaningful, help reduce some of the delirium that they experience, help us to manage the environment by helping the patient stay grounded in what's happening for them day-to-day.

That's a big move.

Keith: I guess, even just a familiar voice of a family member can do that.

Dr. Hosey: Yeah. A familiar voice and another person who can remind the patient, give them some reassurance that they're safe. Give them some, what we call, reorientation, meaning consistently reminding them that they're in the hospital and why they're there.

These are the things that we think can help reduce the severity of delirium and reduce some of the negative mental health aspects of critical illness.

One more thing that we're starting to look at early data on is intensive care unit diaries.

There's some early evidence that's keeping notes on a day-to-day basis about what the patient is experiencing, either from a medical perspective, or what they're recovering and being able to do again, or even things like what's happening at home can help patients fill in the gaps after they've survived the critical illness and starting to get back to life.

One of the big things patients tell us is this was such a window of time. Not remembering it can be a stressor in and of itself. It's a very vulnerable feeling. This ICU diary is a touchstone that might reduce some of the symptoms of PTSD and anxiety that come with losing blocks of time.

Keith: Is there an aspect of any early mental health intervention? Maybe talking to counselors or rehab therapists, that sort of thing, even while they're still in the ICU to help with that later adjustment?

Dr. Hosey: We are just starting to look at that now. I have a colleague in the UK named Dorothy Wade who's another psychologist who did a bit of work looking at training nurses to do what we call self management training, meaning how do I recognize anxiety or mood symptoms? What can I do, as a patient, for myself to try to manage these so I can recover well?

She looked at that in nurses in a very large study called the POPPI trial. I'm looking to expand on that work by having psychologists and psychology trainees implement a similar study to, again, help patients identify anxiety, talk about things like fatigue, sleep hygiene, and other factors that we know can impact people's recovery and mental health outcomes on the other side.

We're in the early stages of this, but this is a really cool and natural evolution that comes along with keeping patients awake and moving. You don't get to have a psychologist working with a patient in the intensive care unit if they're deeply sedated and not able to participate with physical therapists and rehab therapists.

What we see is this very cool, natural evolution of how we take care of the whole patient once we've helped people with the first step, which is survival.

Keith: That's really interesting. That's great. I can't wait to hear more about that research in the future.

Let's now turn to PICS in relation to the COVID-19 pandemic. How has the pandemic affected ICU patients' susceptibility to PICS during their time in the ICU or once they're out?

Dr. Hosey: I'll start with the premise that we are so early in this research. It feels like a lot longer, but we're about a year out now with COVID being a factor in the intensive care unit.

We have hypotheses about what might be different for critical care survivors with COVID, but we're not totally sure. Some unique aspects for COVID survivors that I've anecdotally been able to talk with them about are things like not having family at the bedside.

Infection control precaution, especially in the beginning of the pandemic, precluded us from being able to have family members there at the bedside. That can do a few things.

It increases a patient's sense of vulnerability. Of course, you're homesick and missing your family. For patients who are delirious, they often wonder if they've been abandoned or done something wrong to not have family members at the bedside.

This is a big risk factor. Another risk factor is the hospital employees who need to don and doff PPE. Having to do that, again...We've gotten around a lot of this, but it means potentially slower response times to be able to get into the room with the patient. Unique, really scary things.

Again, if you imagine a delirious patient seeing somebody in this space suit. We've had patients tell us, "I thought that this was an alien abduction," or that people were samurais. Really interesting delirious interpretations of the PPE.

Those are some of the unique challenges there. Again, early in the pandemic, but maybe getting better now, the media portrayals of survival of critical illness were really scary. We would have patients waking up in the intensive care unit not remembering being hospitalized, not remembering being dropped off at the ED, for example.

There were patients who...We always inform them, but there were times where bedside staff were wondering, "Do we just not tell the patients that they've had COVID because we don't want them panicking, thinking that this is some kind of a death sentence and that they won't recover?"

Some of those media portrayals really did affect people who were in the hospital and had been seeing this.

Keith: Gosh.

Dr. Hosey: Yeah.

Finally, there's a lot to contend with the virus itself. We do have patients who knew that they had sick family members at home. We do have patients who had family members who died. Not only

are they recovering, but they're also grieving the deaths of family members from the same disease.

There were some communities that experienced small degrees of stigma. Either inadvertent or overt blame for being infected or for passing along infection. These are extra complication factors that come along with an infectious disease picture.

Keith: When you mentioned early that ICU delirium has a direct correlation with ventilator use, and of course ventilator use was one of the primary things that would be used in an ICU to help someone recover from COVID. I can imagine that's another reason why it could potentially be increasing the prevalence of PICS.

Dr. Hosey: That's a really good point. Thanks for bringing that up.

We are, again, as the pandemic has gone on we've gotten more understanding of how to treat the critical illness that might be caused by COVID. In general, patients who have COVID and require mechanical ventilation, require more sedation for a bit longer periods of time.

For people who need the vent, you're right. There will be a larger number of people who might have had delirium. That is an additional risk factor.

Keith: I know that you said a lot of the research is out. Anecdotally, do you feel like you're seeing a sharp increase in the prevalence of PICS or PICS-F out there now just because of the high levels of patients that many ICUs have had within the last year?

Dr. Hosey: I'm really fortunate. I get to partner with a new group that's been formed by Ann Parker and Emily Brigham, who are pulmonary and critical care doctors at Hopkins. They've built a post-acute COVID team at Hopkins. They have a post-acute COVID ICU-specific clinic, and they are full and booking out for weeks at a time.

What's hard is we had a few post-intensive care clinics sprinkled about the country, but we're seeing way more of them now. We think that there will be greater need with more survivors of critical illness. That's the anecdote that I'm aware of, is that when there are services, they're sought out frequently, and we're booking out right now.

Keith: That's really interesting. You're right. It's just the beginning. We're going to see this so much more. Are there ways that ICU staff are adapting and providing services to patients to reduce their chances of a patient developing PICS during this time?

Dr. Hosey: Yeah. Early on, it was hard. We just needed to get our feet underneath us...

Keith: That's true.

Dr. Hosey: ...and make sure we were all wearing our PPE properly and that there was enough of it and things like that, but I would say that we are moving closer to the model that we had before.

Fortunately, at Hopkins, it was recognized early that rehab professionals would need to be the ones who were also at the bedside, so that never went away. We had really brave rehab

professionals, PTs, OTs, speech language pathologists that just went right in with the PPE right alongside the nurses and the docs. I was able to continue to go in too.

That was good, and that's what we hope will start to happen at other places in the country, is that we start to restore any rehab therapy services they had before, and also start to think about how to reintegrate families, hopefully now there's enough PPE and people to train family members to wear PPE to bring them back.

That's thing one, is restoration of services that we know are vital. Some of the other baseline things that might be helpful are orienting patients to the PPE and why it's being worn early on, reassuring patients that it's not their fault that they've been infected, and trying to give them some sense of relief.

While there are mitigation strategies, they're not 100 percent and they're not a fail-safe. We do have patients who've come to us especially from congregate housing, so people with developmental disabilities like autism spectrum disorder, or people who have down syndrome, for example.

Part of what I've tried to partner with our critical care team to do in those situations is learn from care partners what their day to day looked like so that we can restore some sense of important daily routines, know who the important people are in their life so that we can reassure them that those people are OK and that they're cheering for them from home.

A lot of our patients have enjoyed having something tactile. For example, we had a man with autism spectrum disorder who loved cats. Having, for example, a stuffed cat with him to provide some tangible reassurance that he wasn't alone and that he was being cared for was helpful.

I think adapting for people who might be disproportionately exposed because they're in congregate housing settings, was really important here too. For people with disabilities and also for everyone in general, looking at websites like Five Wishes or the Conversation Project can be really important so that the loved ones in your life know what's important to you and what brings your life value and meaning.

If you're working with a care team who doesn't know who you were before you walked through the door and things are busy, the unfortunate default is to make assumptions about people's life and what they would think of as a life with quality and meaning.

Having conversations with your care partner to say things like, "What makes a good day for me is sitting on the couch next to my niece and nephew watching a Ravens game," or, "What makes a good day for me is being able to get outside and go for a walk."

If your care partners have a sense of what makes a day meaningful for you, they can work well with your care team to say, "Here's the likelihood of what we think they'll be able to do to get back to that," or, "We don't know if they're going to be able to get back to that."

That can inform conversations about future care, meaning if we think somebody is going to not be able to get back to the things in life that are meaningful, we can be honest and open with families and care partners about that.

Does that make sense?

Keith: Yeah, that does. It's really interesting and, I think, a really good aspect of patient centered care and being aware of what the specific patient needs. That can have a very profound relationship with people with disabilities and customizing care specific for what they need rather than making assumptions.

I think that's really fascinating.

Dr. Hosey: We saw a scary case out of Texas where a man with quadriplegia and a brain injury prior to being infected with COVID had an amazing support system, including his wife who had some really unfortunate conversations with her bedside care team where they made assumptions about his quality of life and assumptions about next steps in whether or not to proceed with life-sustaining measures.

Rather than have a conversation with them about what was important to him and what his life and day-to-day looked like, there was an automatic jump to ending care or informing the family that that would be the next move.

These are the conversations that we want to try to slow down or to avoid. What I've learned from colleagues with disabilities is that of course you can have the forms. There's check boxes with power of attorney and DNR and DNI paperwork. Do not resuscitate, do not intubate.

Forms are important, but what's way, way, way important and should be a compliment to the forms is these really important conversations.

Keith: The forms just don't tell the story.

Dr. Hosey: Right, they do not.

Keith: What is the outlook on this? What is the long-term prognosis for individuals that were in ICU due to COVID and later experiencing effects related to PICS? What is the outlook there?

It sounds like we've got a lot of positive direction after starting in the pandemic where things were really mixed up and people were more concerned about getting their PPE on right and things like that.

As you mentioned, now things are settling into it a little bit and taking a minute to make better patient centered choices. What's the outlook? Are things looking positive? Are we looking like we're seeing improvement?

I know that it's early in the research, but you mentioned some more options that are available for people. What's coming next?

Dr. Hosey: I think what's coming next is...I think the pandemic might have kicked the door open for some of this. I think what we're hoping is that multidisciplinary care for patients that starts in the intensive care unit and follows them through to home might be something more accessible to everyone.

What we think is that making sure that there's nothing pernicious still happening in somebody's physiology, meaning that there's no continuing medical condition that needs treating, followed by partnering people with a physical therapist, occupational therapist, speech-language pathologists, to get them back to moving, eating, doing important day to day stuff like self-care.

Finally, for people who've been through something scary, unfamiliar, and unpredictable, partnering them with a psychologist or a mental health specialist who's familiar with people with medical conditions. Wrapping around the individual who's been through a critical illness is going to be one of the things that we're able to provide access to, and we're going to keep studying to ensure that this helps.

It's just important for people who've been through critical illness to know that this will be potentially a life event, like so many other things in life are life events, like birth of kids, new great jobs.

This is going to make life different. It doesn't necessarily mean that it will make life worse in all ways, especially if you just keep your eye on the things that keep life full and meaningful, and surrounding yourself with important supports, including family and friends.

That's really what we're hoping, is that as nasty as this pandemic has been, we're hoping it kicks the door open for more resources for people who've been through critical and intensive care.

Keith: Indeed. It's always nice to see a positive ending or light at the end of the tunnel, for sure.

Dr. Hosey: Hope so. Yeah.

Keith: Indeed. All right. Thank you so much, Megan. I appreciate you being our guest today.

Dr. Hosey: Thank you.

Keith: Thanks again to Dr. Megan Hosey for being our guest today. In the show notes are links to some further information about post-intensive care syndrome. Disability Rights Florida has a section on our website devoted to COVID-19 related information and resources, at disabilityrightsflorida.org/covid.

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