Mayo Clinic Podcast - Dr. Billie Schultz - 2 17 21

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SPEAKERS

Narrator, Dr. Billie Schultz, Dr. Gazelka

Narrator 00:00
Coming up on Mayo Clinic Q&A:

Dr. Billie Schultz 00:02
Earlier on, we didn't realize that brain fog was going to be such a big issue with the lingering effects of COVID-19.

Narrator 00:10
Fatigue and brain fog are common symptoms for COVID long haulers, those people impacted by long lasting effects of the virus.

Dr. Billie Schultz 00:18
We're really hopeful with time, with improvement in the chemistry, with a rehabilitation program, you're going to get better.

Dr. Gazelka 00:25
Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. As we've learned from a year of dealing with COVID-19, the signs and symptoms of the viral infection can vary widely from individual to individual. And that's true of the long-term effects as well. Some people have recovered very quickly, while others seem to suffer effects for quite a long period of time. One of the long-term effects seen in patients who've had COVID-19 is described as brain fog. This can include short term memory loss, confusion, difficulty concentrating, or just feeling different than they did before they had the infection. With us to discuss this today is Dr. Billy Schultz. She's a physical medicine and rehabilitation expert at the Mayo Clinic in Rochester, Minnesota. Thanks for being here with us today Dr. Schultz.

Dr. Billie Schultz 01:13
Thank you very much for inviting me.

Dr. Gazelka 01:15
Well, I'm kind of fascinated by this topic, because brain fog doesn't sound like a term that we would use in medicine very much. But it's great for our listeners, because it sort of makes sense to us. Who is most likely to develop this after they have a COVID-19 infection?

Dr. Billie Schultz 01:29
You know, I wish I had a good answer for that. But quite honestly, anybody can develop it. So, they've looked at who is more likely to have these symptoms that linger. And maybe there's a trend toward if you're older, or have other medical conditions going on. But honestly, anybody can, it doesn't necessarily depend on the severity of the COVID infection, it doesn't necessarily depend on the patient's age, it doesn't necessarily depend on their educational level, it can really be anybody that we see.

Dr. Gazelka 02:02
I think that's one of the fascinating things about this virus, Billy, is that it seems like we say that about most of the difficulties or complications from the virus that there are some individuals that we can identify may be more at risk, but sometimes it just surprises us who has issues.

Dr. Billie Schultz 02:19
Absolutely, and this is one of those things. In fact, earlier on we didn't realize that brain fog was going to be such a big issue with the lingering effects of COVID-19. And as we learn more and more about this, we're realizing really how the brain is affected.

Dr. Gazelka 02:35
And you probably know it, because you're looking for it. How common is this?

Dr. Billie Schultz 02:40
You know, we don't necessarily know how common but we do know, just estimates about 10% of patients who have been infected with COVID-19 actually fall into this long hauler group or this group that has these lingering symptoms that can actually last for months. And so, the fatigue is probably the most common symptom in this long hauler group, but brain fog is right up there with these patients. So, probably about 10%, maybe a little more, maybe a little less.

Dr. Gazelka 03:12
You know, I was complimenting you on your artwork behind you before we started recording this today. So, I know that I'm asking the right questions to the right person. I'm wondering about neurologic signs and symptoms. Why does COVID cause neurologic issues? And is it doing something to alter the brain or the chemistry in some way?

Dr. Billie Schultz 03:32
So, it seems to be more of an inflammatory process. So actually, there have been papers published relatively recently, looking at what really causes this. And there are instances where there is infection causing this, but for the most part, it's an inflammatory process within the brain. So, if I MRI somebody's

brain, it's going to look the exact same because it's more at this microscopic level. And also, we don't necessarily know how long the inflammation lasts. But it does change the chemistry and changes how the brain processes things.

Dr. Gazelka 04:04
So, the diagnosis then is, would be what we would say in medicine is clinical. In other words, there's not a lab test that we can get that will tell us someone's going to have brain fog, and there's not an imaging study that we can do.

Dr. Billie Schultz 04:16
That's absolutely right. We do have some more objective testing. Sometimes we'll do neuro psychometric testing, which is basically a really extensive test, looking at different areas of thinking, looking at memory, looking at attention, looking at focus, looking at mental flexibility, or that ability to you know change your mind or do something different and not get stuck on one solution to a problem. And those are more objective, and there are kind of these things that are out there, but not everybody needs that type of testing to be done in order to diagnose somebody with brain fog.

Dr. Gazelka 04:52
And I imagine it would be a specialist who does that type of testing, is that something that a primary care physician would typically do or no?

Dr. Billie Schultz 04:58
No, this is something that we actually, there are very special neuropsychologists, which are doctorate level or PhD level psychologists that administer and interpret these tests.

Dr. Gazelka 05:10
You know, we've talked in the past on the program about long haulers disease, is this brain fog a form of long haulers disease?

Dr. Billie Schultz 05:18
Yes, it is. It absolutely is, and this is probably one of the forms of long hauler's disease that really affects the person's ability to get back into their life, kind of those community re-entry things. Being a mother, being a father, being a student, being an employee, being a grandmother, being a member of a quilting group, or going to McDonald's with your friends to get your coffee. All of those things are affected by brain fog.

Dr. Gazelka 05:47
It is amazing what we have learned about COVID-19 in just one short year, and I might be asking you a question that there is not yet an answer for. But is this a permanent state? Or if not, how long does it last?

Dr. Billie Schultz 05:59
You're absolutely right, we don't have an answer for that. We have seen people recover from it. And what we're telling patients when we're seeing them is exactly what I said, we don't know. But we are

using information from other conditions that affect the brain and cause cognition or brain fog type symptoms, as kind of our surrogate for how we manage and how we anticipate improvement. And so, as an example, using a patient who had a concussion, as an example, we do expect improvement in those patients. And so, we're saying, and that's a change in brain chemistry with a concussion, and so we're hopeful that we'll continue to see improvement these patients.

Dr. Gazelka 06:40
So interesting, because you said that this is an inflammatory disorder of sorts and comparing it might be a little bit like comparing apples to oranges a little bit to other types of neurologic disorders.

Dr. Billie Schultz 06:52
It absolutely is, but it's the best we can do quite honestly. We're still learning so much about this, that we're just trying to extrapolate from something to really get an idea of how should we treat these patients, what should we do, and how should we advise them. You know, as far as that recovery. So, what we're telling patients is, you know, we're really hopeful with time, with improvement in the chemistry, with a rehabilitation program, you're going to get better.

Dr. Gazelka 07:21
Well, that's good news. You answered this a little bit earlier Billy, but I just wanted to go back to whether the severity of the COVID-19 infection correlates with the severity of the brain fog, or long hauler's type of symptoms. Now, can someone just have very mild disease where they stay at home and quarantined for the illness and then develop this? Or is it always people who've been hospitalized?

Dr. Billie Schultz 07:46
Absolutely, patients that have been home with a very mild form of the disease do develop this. There really, it does not mean you need to be hospitalized, you didn't need to have the tube to help you breathe and be intubated. None of that, we have multiple patients that are coming through that honestly had symptoms, stayed at home, actually did quite well and then tried to go back to work or tried to get back into their life and realize something's different.

Dr. Gazelka 08:15
So, if we have listeners who are concerned that they might be suffering from brain fog or that someone they know or love might be, what would be the advice on what kind of help to seek?

Dr. Billie Schultz 08:25
I think probably the first thing and the most important thing is to make sure you seek help with medical providers. And given that COVID-19 and especially long hauler syndrome are these syndromes can affect multiple organ systems. People can have fatigue, people can have breathing problems, as well as brain problems. It's important to seek care at a multidisciplinary medical center where you can see specialties in all these areas.

Dr. Gazelka 08:50

So, Billy, you talked a little bit earlier about some of the tests that you might use to help identify individuals who might have this issue with brain fog. But then once you've identified them, what is it that you do specifically to help them to recover?

Dr. Billie Schultz 09:04
So unfortunately, there's not a pill or anything like that, that we can give a patient and they're just going to recover from this. So, it really is dependent on a rehabilitation approach. So, with cognitive rehabilitation, or rehabilitation looking at brain function, and thinking, and attention, and focus, we actually have both speech pathologists and occupational therapists that help provide this therapy. And this therapy has two specific parts to it. So, there is compensation as well as restoration. Compensation being we're having these problems, we're seeing these problems, how can we change the environment around us to make us more successful? So, if somebody is having problems with memory, they might write, use more notes, or use alarms to remind them to do something. Start using different mnemonics or other things to remember, have a family member who reminds them of certain things. As opposed to them restoration therapy, which is more let's make this better, let's actually work on improvement. And that is very focused on not just, you know, being on your computer doing brain game type things, but finding ways to work that improvement into day to day life. And there's a lot of evidence and actually manuals and textbooks on how to provide restorative cognitive rehabilitation.

Dr. Gazelka 10:28
I remember a number of months ago discussing with one of your colleagues that Mayo Clinic has a program, I believe that we've set up specifically for individuals with long haulers, and that it is a multidisciplinary clinic. Could you tell us a little bit about that and how your work fits in?

Dr. Billie Schultz 10:44
Absolutely. So, a lot of our patients start in this program that Dr. Vanichkachorn had described, which is basically a comprehensive rehabilitation program. So, they're working with multiple providers. A lot of the therapy is focused on the fatigue and some of those physical symptoms people are experiencing. So, they work with our therapists in both physical and occupational therapy on those pieces. Then, when they're going through that initial evaluation, if they have any complaints of brain fog, they come our way for that cognitive piece. And so, they're evaluated by one of our medical team to really determine, okay what are those challenges they're having? Is it more tension? Is it more multitasking? Is that more that memory piece? So, that we can craft this rehabilitation program for them and be able to connect them with the right therapists to provide that cognitive rehabilitation.

Dr. Gazelka 11:41
That's wonderful. Billy, you and I, had the joy of being residents together a number of years ago now, and I learned quite a bit from you then. And you subsequently went into physical medicine and rehabilitation with a specialty in brain rehabilitation, correct?

Dr. Billie Schultz 11:56
Correct.

Dr. Gazelka 11:57

Tell me what that means.

Dr. Billie Schultz 11:59
So, first physical medicine and rehabilitation is really focused on functioning. So, a lot of amazing physicians are out there who are great at diagnosing something and coming up with that medical plan to treat something or prevent it from happening again. And then we come into the situation and we're like, wonderful, you have that diagnosis, but how is this affecting your life? How is this affecting your function? How is this affecting your ability to do the things that you need and want to do? And so, we work with both medications, with injections, with therapists, with an entire multidisciplinary team to help provide the patient rehabilitation and or other interventions to help improve their life, or their function. When I decided to go into brain injury rehabilitation, really what that meant is I got to go and do more training, because isn't that what we all want to do in medicine? So, I had the opportunity to train specifically in brain injury medicine, and brain injury being any kind of brain injury, so not just traumatic brain injury, but stroke, and tumors, and infections, and COVID-19. I mean, things that are novel that we haven't heard of before, and really focused on what we can do from an intervention standpoint for that. And one of the unique things with brain injury medicine is really that cognitive or brain piece to it, that's different than my colleagues who work on the spinal cord medicine field, or in the musculoskeletal rehabilitation field. Brain is really special in that it encompasses, your thinking, your mood, your vision, your body function, just everything falls into brain injury medicine. So, it's a really holistic fun field to work in.

Dr. Gazelka 13:57
That's really interesting, and that's one of another of the things that I found so fascinating about COVID-19. I think in the beginning, many of us thought, well this will be the purview of primary care providers, and of maybe physicians who specialize in infectious disease. But, now we have every discipline of medicine involved: cardiologists, and PMR physicians, pain physicians, many, many specialist vascular doctors. And so, it has been really interesting to see how just in a year, we have come together and learned so much together about this disease.

Dr. Billie Schultz 14:30
Yeah, it's been a learning experience for all of us, obviously. I think from the rehabilitation realm or the PMR realm, initially, we were like, Oh, this isn't gonna affect us that much, how can we help in other areas. But it turns out we're, you know, for those patients that are severely affected who may have problems with their lungs or other things, some of them are coming to the rehabilitation unit afterward to work on things to get them home safely. And then we have those patients that we're seeing more long term for things like brain fog, or fatigue, or pain or other things. Again, focused on getting you back to life. That's what we want to do.

Dr. Gazelka 15:14
That's right, like so many other things where you described earlier that the individual has recovered from the illness but now has to deal with the after effects. So, thanks so much for sharing with us today.

Dr. Billie Schultz 15:25
No problem. I'm very happy to share.

Dr. Gazelka 15:28
Our thanks to Dr. Billy Schultz, physical medicine and rehabilitation specialist as well as a brain injury rehab specialist at the Mayo Clinic. I hope that you learned something today because I know that I did. We wish you a wonderful day.

Narrator 15:42
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