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Differentiating the Diagnosis Between ADHD and Sleep Disorders

Ashley Baker:
Welcome to NeuroFrontiers on ReachMD. I'm your host, Psychiatric Nurse Practitioner Ashley Baker, and joining me to discuss how we can differentiate the diagnosis between ADHD and sleep disorders is Psychiatric Nurse Practitioner Stoni Johnston. She is the founder of Sulcata Psychiatry in Tomball, TX.

Stoni, thanks for joining me today.

Stoni Johnston:
Thank you for having me, Ashley. It's good to be here.

Ashley Baker:
So to jump right in, Stoni, can you explain the presentation similarities between ADHD and sleep disorders?

Stoni Johnston:
Yeah. I think with ADHD, one of the things we see pretty commonly is an issue with insomnia, so trouble falling asleep, staying asleep, sometimes waking up too early, but definitely that sleep initiation piece, which is common across some of the other mental health disorders, including sleep disorders, some of the sleep disorders that really tend to look similar to ADHD. I've seen some narcolepsy have similar presentations with the attention functioning during the day, cognitive functioning, the blunting, the slowed-down processing, not so much the hyperactivity, but definitely it cognitively can mimic ADHD symptoms in the processing speeds.

Ashley Baker:
Okay, so we've made that differentiation in presentation similarities, but say a patient comes into the office; they're looking for treatment; they want a diagnosis; the symptoms are similar. How do you differentiate between sleep deprivation caused by ADHD and sleep disorders, such as narcolepsy? What tests would you order? What questions would you ask? And what are the challenges?

Stoni Johnston:
Yeah. So when somebody presents with ADHD, the first thing we do is we have them do a cognitive test, a continuous performance test. The continuous performance tests really give a good idea of how someone sustains attention over time. So for the adult test, I believe it's around 20 minutes, and with ADHD you will see a decline in attention and cognitive functioning over time. They might start out really good, but then they get more hyperactive; they get more inattentive, more impulsive with their clicks, so you see that progression on the graphs and on the results. With somebody who has a sleep disorder, it will consistently be poor results. There's no timeline of decompensation. It's just from the very start their cognitive functioning is not necessarily doing well. They might be inattentive the entire time.

I think that piece is really important to be able to see that over time, because when we're doing the clinical part of the interview it can be kind of difficult to assess that, but to have that objective measure telling you for 20 minutes, them sitting by themselves alone just in front

of the computer, what does their attention really look like, versus me sitting there repeatedly calling out their attention, asking them questions, and making them engage. There's a lot of things that can affect cognitive functioning, but in relation to sleep disorders, that's the first piece is the cognitive testing. And then the second piece, if somebody comes in to me and says they're having some of the cognitive symptoms, executive dysfunction, there's usually a lot of emotional impulsivity, so emotional dysregulation. With ADHD, we get that quick to anger or quick to react, and then very quickly it settles down. But they have issues falling asleep. Maybe they're sitting there thinking about all the things they have to do the next day. That's really the difference between a sleep disorder and something like ADHD or anxiety or something like that. With narcolepsy in particular, it's less of an issue with the falling asleep. They're going to be more sleepy anyways, so that hypersomnia piece throughout the day is more related to the actual sleep disorder parts and things.

Ashley Baker:
So how would treatment for ADHD differ from treatment for sleep disorders like narcolepsy or hypersomnia?

Stoni Johnston:
So with ADHD, usually, we put them on a stimulant. Nonstimulants can work as well, but with the stimulants with ADHD, we're trying to correct that attention and that executive dysfunction during the day. We can use stimulants with narcolepsy or with some of the other sleep disorders, but they're more for that wakefulness rather than attention. The other thing we tend to do with sleep and ADHD, sometimes we will put them on like a trazodone or a clonidine or something to help them fall asleep. That's usually not the same treatment that we would do with narcolepsy or with idiopathic hypersomnia. Generally, we're focused on improving the energy throughout the day, while also correcting the sleep cycle disturbances that occur in sleep disorders with REM or deep sleep time. The sleep architecture is the issue, particularly in narcolepsy, whereas sleep architecture isn't an issue with ADHD. It's just that primary insomnia.

So with narcolepsy, we are focused more on correcting that nighttime stages of sleep, making sure they're getting the proper time in each of those stages. They're going to be on much different sleep meds than an ADHD patient would be on.

Ashley Baker:
When would you refer out? I know there's not necessarily guidelines for "Okay, this person has this set of symptoms; I'm going to refer out for a sleep study." But in your clinical experience, how often do you do that, and how helpful is it? And what kinds of symptoms would lead you to do that as opposed to progressing with treatment right away?

Stoni Johnston:
Yeah. So if I have any question about a potential sleep disorder—if there's any question they've got maybe some parasomnia issues with, like, nightmares, sleep paralysis, sleeping excessively throughout the day, I usually will refer out to a sleep specialist in my area just to get a second look at it and make sure I'm not missing anything. I do refer for sleep studies pretty frequently just because I have caught some sleep disorders that were presenting. They were mirroring symptoms of ADHD or depression. Sleep apnea is a big one as well. Very large majority of people with depression also have sleep apnea. But I think with ADHD in particular, if I have not suspected any type of sleep disorder and they're just not responding to the meds I have them on—they're still having that brain fog, the executive dysfunction even though I've got them on a moderate to a high dose of a stimulant and they're still really struggling—that's a big red flag for me that they need a sleep study.

Ashley Baker:
For those just tuning in, you're listening to NeuroFrontiers on ReachMD. I'm Psychiatric Nurse Practitioner Ashley Baker, and I'm speaking with Psychiatric Nurse Practitioner Stoni Johnston about differentiating ADHD from sleep disorders.

So continuing with treatment, Stoni, are there any nonpharmacological options for managing ADHD and sleep disorders when they are comorbid?

Stoni Johnston:
Yeah. Really frequently I recommend magnesium. This is for people with ADHD or with any type of issues falling asleep. I find

magnesium 250 to 500 milligrams really helps with relaxing your body, your mind, to get to sleep. Melatonin can be helpful. I usually don't go over 10 milligrams of melatonin because the higher you go on melatonin, the more issues you can have with some nightmares or very vivid dreams. There's CBT for insomnia. That can be helpful for really working on in therapy to reduce issues with sleep, it's not going to help much with the actual issues with sleep architecture, but if there are problems with sleep that can be addressed behaviorally, CBTI, which is CBT for insomnia, can be helpful but also just having a good sleep routine, keeping the sleep schedule as consistent as possible. Your body thrives on routine. The more consistent you can be with what time you're going to sleep, the activities you're doing prior to going to sleep, reducing electronics, the blue light, anything really invigorating prior to going to bed, doing some self-care, relaxation, meditation, yoga is a big one to help relax the body—I find those are all really helpful for sleep issues.

Another thing I recommend in regards to supplements, I usually recommend most of my ADHD patients take L-methylfolate. There is a high correlation between the MTHFR mutation and ADHD symptoms. So we do pharmacogenetic testing at my clinic, and what I have found clinically is that a lot of my ADHD patients have this MTHFR mutation. And what that means, essentially, is they're not breaking down folate well enough, so no matter how much they're eating, they're not going to be able to utilize it in the proper way, so if you can supplement that, any L-methylfolate vitamin can be really helpful because what it's essentially doing is you need L-methylfolate to create neurotransmitters. It's a precursor to things like serotonin, epinephrine, dopamine. You need this L-methylfolate in order to create the chemicals that our meds are going to work on, so I explain it to patients if meds are a hammer and the chemicals we're working on are the nails. If we're deficient with our L-methyl folate because we have this mutation, we're going to run out of nails too soon, so our meds won't be able to work well enough.

And then exercise. I would usually recommend at least 30 minutes of activity per day, particularly for my littles with ADHD. The exercise serves not only to expel some of that pent up energy, but also to improve BDNF release, BDNF being the brain-derived neurotropic factor, which is going to help overall functioning cognitively.

Ashley Baker:
As we come to the end of our discussion today, Stoni, could you leave our audience with some tips or strategies for overcoming challenges and unmet needs in this area?

Stoni Johnston:
I get a lot of patients who come, they've already tried several meds, or they've been seeing someone who's not in psychiatry, so I always recommend generally that if there is ADHD present that they be referred to psychiatry to manage because there's a lot of nuances with ADHD meds, and they are very particular. For the hyperactive class clowns or inattentive, they've got a lot of personality, we don't want to flatten them out with stimulants because you can flatten them out if you go too high. Generally, though, if they're not behavioral kids or adults where we've got a lot of aggressive behavior, then we start with more of an amphetamine base. Those do really well with those inattentive and just maybe a little hyperactive, little goofy, little too social in class. But if it is something more where there's a lot of emotional dysregulation, we've maybe got some ODD stuff in there, we've got some aggression, they tend to do better on the methylphenidate class of medication in my experience.

If you're doing pharmacogenetic testing, it's super helpful because it will actually tell you which one they're more likely to respond to a methylphenidate versus an amphetamine, but clinically, that's what I see is amphetamines work better on the inattentive, little bit social; methylphenidates work better when there's real behavior, conduct issues.

Ashley Baker:
With those helpful approaches in mind, I'd like to thank my guest, Stoni Johnston, for joining me today to discuss how we can accurately diagnose ADHD from sleep disorders in our patients.

Stoni, it was great speaking with you.

Stoni Johnston:
Yeah. Thank you for having me, Ashley.

Ashley Baker:

For ReachMD, I'm Ashley Baker. To access this and other episodes in our series, visit NeuroFrontiers on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening.