

Talking Sleep Season 4
Episode 13
July 29, 2022
Dr. Afifa Uzzaman Guest

Episode Transcript

DR. KHOSLA: Thank you for joining us for Talking Sleep, a podcast of the American Academy of Sleep Medicine. I'm your host, Dr. Seema Khosla, medical director of the North Dakota Center for Sleep in Fargo.

One area of sleep issues that is sometimes overlooked or incompletely understood is sleep-related movement disorders. Here to help us understand these better is Dr. Afifa Uzzaman.

Dr. Afifa Uzzaman is director of the VA Sleep Disorder Center in Ann Arbor, Michigan, and an associate professor of neurology and internal medicine at the University of Michigan. Thank you for joining us today, Dr. Uzzaman.

DR. AFIFA UZZAMAN: Thank you very much for having me, Dr. Khosla. I'm very excited to be here.

DR. KHOSLA: So, you know, your training was kind of unique. You know, I think most people in our field come in, right, either through pulmonary or neurology. But you did med peds and then a movement fellowship. So, tell me about this.

DR. UZZAMAN: Yeah, it was a different opportunity or a different track, wasn't it? So I did med peds, and I was actually very interested in movement disorders. And when I was looking around at what I could do as a med peds physician, both taking care of adults and pediatric patients in neurology, I thought movement was something I was really interested in. But the whole neurology aspect, I mean, in neurology, whole aspect of epilepsy, and that wasn't really what I wanted to be doing. Georgetown actually gave me the unique opportunity to do movement disorders, to do their fellowship first, and then actually do a neurology residency getting a year credit that way. It's funny because they told me afterwards that the only reason they interviewed me for this position was because they'd never had a candidate who was a med peds candidate who applied. They're like, we were just curious, we want to see what this is all about.

DR. KHOSLA: So you talked about movement disorders. And I think when people think about movement disorders, we think about RLS. Right. And so just sort of for the sake of transparency, it's my understanding that the AASM is currently updating the RLS treatment guidelines, and I think they are due to be released sometime in 2023. So why don't we put a pin in RLS and not touch on that today? But let's maybe talk about other things like PLMD. You know, let's talk about periodic limb movement disorder. Tell me about that.

DR. UZZAMAN: Sure. So, well, there are two separate entities, periodic limb movements of sleep and periodic limb movement disorders. So were you asking about the PLMS or the PLMD?

DR. KHOSLA: OK, well, tell me the difference.

DR. UZZAMAN: Oh, OK. Well, periodic limb movements of sleep are actually leg muscle activation. So, they're, they're activations in the limb EMG that we see on a PSG and they meet very specific criteria, right. Depending on which criteria are using World Association of Sleep Medicine, and International Leg Study Group. Their criteria are slightly a little bit different from the American Academy of Sleep Medicine criteria.

But in overall, you have to have EMG activation so increases in your baseline amplitude in your EEG by eight micro volts or higher for depending which criteria you use for half a point five to 10 seconds, that can occur either at every five as strictly as every five or as infrequent as every 90 seconds, but you have to have a series of four of these consecutively.

And that's what periodic movements are. And then if they happen in sleep well, they're periodic movements of sleep. They can happen while awake to now unless they cause some kind of consequence, right? Unless they cause sleep disruption, daytime impairment, affecting mood, you know, those kinds of consequences. It doesn't become a disorder until those consequences happen. So, PLM DS this the disorder that occurs when there is a were there excessive or more than normal frequency of periodic limb movements during sleep which in adults would be is typically considered more than 15 times per hour and in kids more than five times per hour.

And then these lead to some sort of sleep or daytime impairment.

DR. KHOSLA: OK, so that's fair. So objective plus symptoms, right?

DR. UZZAMAN: Correct.

DR. KHOSLA: Yes. So do you remember years ago there are some data that suggests that this link between periodic limb movements and coronary disease. And so there is a lot of discussion around this, right? That is there is signal in there should we be sort of have our antenna up when we see a lot of problems or are the PLMS just this innocent bystander?

You know, where do we sit with this?

DR. UZZAMAN: You know, the jury is still out on this. There is enough there is a lot to suggest that. The PLMS are more than just innocent bystanders, bystanders. But it's not clear yet. The association is not quite clear. We do see autonomic activations with PLMS. Right. So basically, you know, as we go into different stages of sleep, our parasympathetic tone increases.

The deeper stages of non-REM sleep we go into. But what we're seeing with PLMS is that there is activation, autonomic activations that actually precede the muscle activity itself by even a few seconds. So, the heart rate might go up, the blood pressure might go up, or actually not might it does go up and before the movement actually happens and whether that movement results in an arousal or not.

And so, we think that there's something there right now, is it that is a direct relationship? Is it an indirect relationship that, hey, these, you know, blood pressure elevations then lead to left

ventricular hypertrophy, which then can cause cardiovascular disease? We don't know all of these nuances yet.

DR. KHOSLA: So, do you think then that would you ever order PSG to look for PLMs then? So, let's see. I mean, clinical history. Yes. You know, limb movements. My legs are moving. I, you know, wake up all night. Do you ever do a PSG just to look for this and not sleep apnea?

DR. UZZAMAN: Well, it's been very rare for me to do plan to do PSG for just PLMs or to just look at periodical limb movements. Periodic limb movements themselves are seen in a lot of different conditions. They're not by themselves as true as PLMD, It's not very common. Now, I have had patients who, you know, have had a PSG before. They may have had some PLMs, but they had sleep apnea or they had some force or some form of sleep, sore breathing.

And we treated the sleep sore breathing, and the patient still didn't feel much better. And so, then I've actually gone back and taken a look and I can actually think of two patients off the top of my head that actually it did turn out that they had very frequent, fairly clear movements of sleep. And when we treated those, they actually did start to feel better.

DR. KHOSLA: Oh, so that's interesting then. Yeah. So, it may be seen, incidentally, but then can become a clinical clue when we're looking at sort of our patient that isn't maybe getting better like we hoped.

DR. UZZAMAN: Right. Right. I mean, that's it's always possible they can co-occur with something else. Right. Now, typically when we when we score periodic limb movements on a PSG, if they're happening in association with a respiratory event, you know, like hypopnea or an apnea then, you know, that time period. We don't actually score the PLM, the series of PMLs during that time.

But that doesn't mean that I mean, you know, it just means that they're happening at the same time. It doesn't mean that one is distinct. I mean, there could be two different things going on at the same time. You just can't score them at that time. Right. But once we treat one and they're still there, then it's potentially that that's the cause or that's that might be an issue.

DR. KHOSLA: So, you know, sometimes we'll get these stories and I'm sure you see this in clinic more than I do, where the bed partner is reporting movement at night. Right. And so how do you figure out if this is a sleep related movement disorder or a parasomnia?

DR. UZZAMAN: You know, there are lots of different movements that happen while we sleep, right? There are sleep related movement disorders. They are parasomnia as they are. People are just rolling around in bed trying to get different, you know, comfortable positions So basically, the thing is with Parasomnia is they tend to be more complex, the behaviors. And they're actually behaviors and not just simple movements, but they look like the patients doing something that's goals directed, right?

They look like they're trying to, you know, reach for something. They're walking they're eating, but they look like they're doing a complex goal directed behavior. And as opposed to sleep related movement disorder or sleep related movements that aren't parasomnia. So those are

simpler. You know, something's moving back and forth. That's a simple, you know, contraction Now is one more disturbing than the other to the bed partner.

That's hard to say, right? They can all be disturbing.

DR. KHOSLA: So, talk to me about these other movement disorders. Like so the one I think about is a body rocking. And I you know, I really haven't seen this very often, but how should I be thinking about this? So, like for me, if I were to see something like body rocking, I think I would be a little bit concerned about it.

So, is this harmful? Do we treat it? How do we treat it? How should I be thinking about this? Is that something that I should be worried about? Or is it, you know, or should I sort of look at it the other way of like, OK, well, this is their way of soothing and, you know, how should I be thinking about this?

DR. UZZAMAN: Right. Right. That's actually very interesting. So, body rocking is a form of sleep related rhythmic movements. Right? And so, these are just rhythmic back and forth movements. Where in your in the case that you're describing, the person seems to be rocking back and forth. There have been episodes of just rolling the whole body. There's been episodes of banging the head.

DR. KHOSLA: Yes.

DR. UZZAMAN: Yes. So, you know, sleep related rhythmic disorder, especially these large muscle groups that are rhythmically moving back and forth. These actually oftentimes are considered well, they're usually considered self-soothing behaviors. Right. It's something that is typically seen during, you know, you know, pre sleep wakefulness or that transition from wake to sleep. And they can once they're asleep, they can still persist throughout consolidated sleep.

But that's usually when they see it, when we see it the most. And it's oftentimes the self-soothing behavior. Now, it happens a lot more in children than it does in adults and in children. Actually, it's funny because kids, when they do it, they more often than not don't remember having done it. Whereas kids as far as adults. Yeah, they might actually remember there might be a volitional component to it, but it does decrease in frequency.

And it's not something that we typically need to worry about treating unless it's causing harm or injury, especially with things like head banging. You know, people have been seen especially kids have been seen as banging their heads against the headboard, you know, and in those kind of situations, oftentimes it's things like, you know, wearing a helmet can help I actually have an adult patient who still does this and he's actually wearing a helmet in bed, but it's still persists.

And in those cases, you know, you may want to consider treating it pharmacologically as well.

DR. KHOSLA: So how would I do that?

DR. UZZAMAN: Well, the one that works the best is clonazepam. You know, it seems to of course, most.

DR. KHOSLA: If it's if that's ever an option, right? That's right. On the exam. So that's exactly the one I was thinking of as a head banging, because I think that would just, I think that would just like scare the bejesus out of me if I saw that.

DR. UZZAMAN: Absolutely. And it scares parents of children and can cause injuries, too.

DR. KHOSLA: You know what else I haven't seen? I don't think I've ever seen ALMA, the alternating leg muscle activation. Yeah.

DR. UZZAMAN: Yeah, I'll say like most leg activations they kind of actually resemble a little bit like in tremors. Right. A lot of people see those frequencies a little bit you know, not as long. But what we typically see with ALMA is you see tremors or movements, you know, usually fluctuate eccentric movements but it can be another directions that alternate between the legs.

So you have it, you know, one flapping movement, one leg, and you get it on the other leg. Then it goes back to the first leg, usually runs on chains of like up to 20 seconds at a time. Same thing it occurs at wake to sleep transitions, you know, and one end to sleep. But those are usually pretty benign as well.

DR. KHOSLA: So, I don't have to do anything about it.

DR. UZZAMAN: You know how it's just it's just a cool, interesting thing to see.

DR. KHOSLA: So, I probably should be better about maybe looking for it because I honestly, I can't remember recently ever seeing it on a PSG.

DR. UZZAMAN: Yeah.

DR. KHOSLA: So I'm, I'm probably just not looking hard at it.

DR. UZZAMAN: I mean we do see it, right? And the thing is that right now it's always a good idea to comment about these kinds of things because.

DR. KHOSLA: A lot.

DR. UZZAMAN: Of these sleep related movements, we don't really know a consequence right now. So we say, OK, well, these are benign, but then we don't know what we're going to learn. 20 years down the road.

DR. KHOSLA: Well, that's fair. That's fair. So, let's take a quick break. You're listening to Talking Sleep from the American Academy of Sleep Medicine.

AD BREAK: Prepare for your board exams or review your general sleep knowledge at Sleep Medicine Essentials. Attend virtually September 15-18 or watch recordings at your leisure. For details and to register visit aasm.org/sme.

DR. KHOSLA: Welcome back to Talking Sleep. Our guest today is Dr. Afifa Uzzaman, and we're discussing sleep related movement disorders. So, you kind of talked about how ALMA is something that's kind of cool to note, but isn't really a big deal. So, what about other movement disorders that are benign?

DR. UZZAMAN: That are benign?

DR. KHOSLA: Yeah.

DR. UZZAMAN: You mean like excessive fragmentary myoclonus that are just like small little movements that we see that happen during sleep? They're like small twitches of the, you know, smaller muscle groups like the hands, the toes, even by the mouth. And typically, they're so small, we don't even see them. We just see them as little elevations in the EMG those are pretty benign.

They're just things that happen during sleep, even when it's excessive more often than, you know, occurring more than five times in a minute. They usually don't cause any and they're usually pretty benign. They don't usually cause any consequences.

DR. KHOSLA: So, what about bruxism? Is that considered benign?

DR. UZZAMAN: A plexus harm is a well, bruxism is, you know, when you're grinding your teeth, you've got muscle activations. You have at least four in a row of these. And we see them actually as elevations in the chin EMG, it's a pretty benign condition itself. It's seen in a lot of things. It's you know, it's seen as a condition in itself is seen in patients with anxiety.

It's seen in a lot of other conditions. That in itself is benign. The problem is that, you know, the person who's doing it can grind their teeth down. Right. You know, they can cause injury to themselves and it can be disturbing to the bed partner who's listening to this sound.

DR. KHOSLA: Yeah, this is true. Yes, it's true. So, it seems like I just read something so this so to me, it feels like the data on coffee, right? Like one time you read a study, it's good for you. And then one time you read a study it's bad for you. And so, I'll see an article saying if you see bruxism think, OSA.

And then I just write another one, say, yeah, we don't think there's a link there. So yeah. What are your thoughts on this?

DR. UZZAMAN: Yeah, it's, you know, this one's a hard to say as well. The jury's out on this one as well. You know, during most of my training that was that the prevalent thought is that, hey, you see bruxism you want to suspect or at least investigate for sleep apnea, which to me would make sense, right? I mean, if your chin, if your jaw I said back a little and you're grinding your teeth to try to open it, maybe, is it a reflection of trying to open the airway and that's why things are moving.

I don't know. I mean, the jury's still out about this, so hopefully we'll learn more soon.

DR. KHOSLA: So, let's talk about something that's maybe a little bit more significant. Let's touch on Parkinson's and sleep. So, you know, when I think about Parkinson's, right? I think

about REM sleep behavior disorder. And I've often wondered, you know, do you think that every patient that gets a diagnosis of Parkinson's should then have a sleep study?

DR. UZZAMAN: Well, so, you know, Parkinson's patients can have any kind of sleep disorder, not just REM sleep behavior disorder. And, you know, they have insomnia. They have just as much sleep disorder of breathing. There is a theory now that Parkinson's disease and most and other alpha synucleinopathies, the alpha synucleinopathies may be a progression or RBD, REM sleep behavior disorder, maybe a prodrome to developing an alpha synucleinopathies. There's even a thought that there are two pathways of development of Parkinson's. Now, one pathway is through RBD and then the alpha synucleinopathies. And the one other is without the RBD, huh? Yeah. So, I don't so it depends on what you're looking for right now.

I would say that if somebody has Parkinson's disease and they're excessively sleepy, then, yes, absolutely. They should have a sleep study. Somebody with Parkinson's disease who historically sounds like they have RBD probably does have it. You can do a sleep study to confirm, but you're going to treat it the same way.

DR. KHOSLA: That's fair. So, it's so it's not just OSA and insomnia. Right? So, what other sleep related issues should we be concerned about for our patients who have Parkinson's?

DR. UZZAMAN: Oh, so yeah, besides just, you know, Parkinson's alters the sleep architecture a little bit. You know, the dopamine pathways are involved in that but there can be insomnia, especially sleep maintenance, insomnia. A lot of patients with Parkinson's disease have sleep maintenance as well as sleep onset insomnia and early morning awakenings. They have a lot of patients with Parkinson's disease can actually have circadian dysregulation.

You know, melatonin yeah. The circadian melatonin secretion is actually blunted in Parkinson's disease, and the production of melatonin might actually be delayed by up to 2 hours in something like Parkinson's disease. Yeah, so you know, it can even progress to a point where the night and day become inverted in patients with Parkinson's disease. The other thing is, you know, you have the sleep related movements in Parkinson's disease I know you guys are going to do some the restless legs guidelines are coming out, but there is a higher one.

OK, so this is still on the fence now, too. But there used to be a higher prevalence of restless legs in patients with Parkinson's disease. I mean, it was almost like, you know, 50% of patients with Parkinson's had restless legs. Now they're thinking, well, maybe that's not really the case. They're, you know, looking at other factors that might be involved, it might be actually a reflection of the dopaminergic pathways.

It might actually be that, hey, Parkinson's patients actually have akathisia because they have this urge to move because they can't move they're hypokinetic, they're bradykinetic. And especially when they're lying in bed, when they're lying in bed, that axial movement you know, the movement from side to side when you're laying down is harder for Parkinson's patients than it is even when they're upright.

So, they want to move because they need to roll over and sometimes that sensation can also be, you know, misinterpreted as something like restless legs. So, all of these factors will play in patients with Parkinson's disease. And one thing we often forget to even think about is that Parkinson's disease itself, patients have problems moving, right. So that means that once they get into bed, if they're laying on their back, they might have a hard time rolling over to their side.

So just trying to get into a comfortable position in order to be able to fall asleep might become challenging. So, the other thing is that sometimes patients who have Parkinson's disease have other types of behaviors you know, patients with Parkinson's disease are known to be too pund, right? They're known to be doing something called punding or they look constantly like they're busy and they're doing things without really accomplishing anything.

Right. So, yeah, so they can be you know, that could delay their time to get into bed or even the dopaminergic therapy that we use can lead to things like, you know, impulse control behaviors and. Sure. And that can then affect the sleep as well.

DR. KHOSLA: Oh, so you taught me something really interesting about dystonia. Yeah. So, explain this to all of us.

DR. UZZAMAN: So, dystonia is when agonist and antagonist pairs of muscles contract together right at the same time. So usually when we have when we produce any kind of movement, say, for example, we're extending our arm, right? So, for that to happen, the extensors of the ARM contract while the flexors of the arm relax in order to extend the arm, what happens with dystonia is that they both contract together.

So, the movement gets stuck and you know, that's this can be very painful. One thing though that we've noticed in patients with dystonia is that dystonia can have sensory tricks to overcome the dystonia. So, I've seen patients with severe torticollis, right, who really can't move their head out of that fixed side bent position. And now they put two fingers on their cheek and all of a sudden, they can straighten their head and walk down the hallway without any pain.

Yeah. So there are you know, it's very fascinating movement disorders, and they are so many different tracks and pathways that are affected.

DR. KHOSLA: So, can somebody who has Parkinson's disease sleepwalk?

DR. UZZAMAN: Absolutely. Sleepwalking is seen in Parkinson's Disease. I know we typically talk about RBD being seen in Parkinson's disease and you know, RBD patients don't really leave the bed, but these patients with Parkinson's can absolutely sleepwalk. And then there are also a lot of parasomnia overlap seen in patients with Parkinson's disease.

DR. KHOSLA: So, when they're sleepwalking, do they shuffle? Like, do they still have that festinating gait?

DR. UZZAMAN: So, it's funny, right? Because while patients are sleeping, their movements are better right? So, like somebody with RBD, right? They have Parkinson's Disease and they're moving their arms and legs and they're and they're kicking their speed is just normal. Their

movements are just as fluid as they normally would be, you know, if they didn't have Parkinson's disease while they were awake.

Yeah. Same thing with the sleepwalking.

DR. KHOSLA: That's kind of that's kind of amazing.

DR. UZZAMAN: I know. It's cool, right?

DR. KHOSLA: So, talk to me about trauma related RBD. So, you work in the VA and I'm sure that you have more experience with us than maybe the rest of us. So, tell me about this.

DR. UZZAMAN: Yeah, absolutely. So, trauma related sleep disorders, actually, I believe the term was coined in 2017 2018 as its own entity. Right. But basically, what we see is that patients who've been exposed to trauma, traumatic events with such as PTSD or trauma as a traumatic brain injury, we see that they tend to have, you know, what's, what looks like REM sleep behavior disorder with the elevated EMG tone with acting out the dreams.

There are slight differences though oftentimes with the trauma related RBD type picture in which, you know, you still have the same, you know, same dream violent dream contents. But oftentimes the dream content tends to be more related to their traumatic experiences, either reliving the trauma or, you know, traumatic dreams actually can evolve over time. And so just those feelings related to that trauma, they can as opposed to true REM sleep behavior disorder, where you have you know, the eyes are always close, that the parasomnia doesn't happen until the later part of the night.

And patients, when you wake them up, they become, you know, aware of their surroundings. Right away with trauma related sleep disorders, the parasomnia actually has more of a mixed picture. You know, they actually might occur earlier on in the night. They might have their eyes open; they might even leave the bed. So, but they still have that elevated EMG tone in REM.

So, it's something we really need to be learning a lot more about. And it's you know, PTSD itself is a very intriguing phenomenon. We think that PTSD develop ups when there's disruption to sleep, but specifically, possibly even disruption to REM sleep after exposure to a traumatic event. Normally what happens in REM is that our normal epinephrine levels go down.

The amygdala activity is depotentiated. So basically, what we're doing and some of the things we do in REM is to get rid of some of these unwanted memories. Right. We store memories in different stages of sleep. We get rid of memories. We don't want in REM sleep. And when we are exposed to trauma and we get rid of these emotions right then and these memories then, that's how we process these however, if there's disruption and that normal epinephrine levels don't go down and that amygdala activity doesn't go down, then, then exposures to those things that trigger those memories that brings that whole, you know, response that all of those feelings right back to where you were you living them? You know, and that's where we think PTSD develops. That's how we think it develops. We still a lot we still have to learn about this. But so we think it's a disruption of REM sleep that's causing the OR that might be contributing to the

development of PTSD. But the parasomnia that we see with it has a real mixed REM and non-REM features.

DR. KHOSLA: So that is fascinating.

DR. UZZAMAN: Oh, it's cool.

DR. KHOSLA: So, do we think that this also carries that same you know, association with neurodegenerative disorders then?

DR. UZZAMAN: Well, that's something that we still need to learn.

DR. KHOSLA: Mm.

DR. UZZAMAN: We think it might be a different pathway, but we don't know. There's just not enough known about this yet.

DR. KHOSLA: And I wonder if there isn't some overlap. Right? Because certainly in that population. Yeah. They're absolutely right. So, a lot of our patients with Parkinson's have also had trauma and PTSD. And so how do you, you know, sort it out.

DR. UZZAMAN: Yeah, yeah. And there is a lot of work needs to be done.

DR. KHOSLA: And then is treatment similar then.

DR. UZZAMAN: With trauma related behaviors? You probably want to get to the bottom of treating the trauma, and the PTSD. And sometimes things like that might help control the frequency of the nightmares. You know, there are a lot of behavioral cognitive behavioral strategies, things like Prazosin that can be used to help treat nightmares. Maybe reducing the frequency of the nightmares might help reduce the frequency of the movements or that a lot to be learned. Yeah.

DR. KHOSLA: Yeah. Have you had any experience with that app?

DR. UZZAMAN: With that the nightmare app?

DR. KHOSLA: Mm hmm.

DR. UZZAMAN: We have. We don't you know, we actually just tell people to use it and then they follow up with their med in house colleagues.

DR. KHOSLA: I think the VA does that really well, right? It's Multi-modality approach. So, I think we can all learn from what you have done. You know, I've had maybe two or three people that I've referred for nightmare rewriting you know, that sort of imagery. But certainly, it's not we don't have a robust system in place, you know, like a straightforward pathway.

Yeah. So, I think we can learn from you guys.

DR. UZZAMAN: Yeah. We're very lucky at the VA with that. We even have a sleep psychologist that's embedded in our sleep clinic. So, because we see it so frequently you know, not only does our sleep psychologist do things like, you know, circadian retraining or but they do things like nightmares scripting, cognitive behavioral therapy for not just insomnia, but for nightmares.

And as rehearsal therapies, you know, combined therapies are a lot of different treatments available.

DR. KHOSLA: Well, thank you so much for taking the time to talk with us today. I hope this discussion gives our listeners a better understanding of sleep related movement disorders and what to look for in their patients.

DR. UZZAMAN: Well, thank you very much for having me. It's been a lot of fun.

DR. KHOSLA: Thanks for listening to Talking Sleep, brought to you by the American Academy of Sleep Medicine. For more podcast episodes, please visit our website at aasm.org. You can also subscribe through your favorite podcast service. And if you enjoyed this episode, please take a moment to leave a rating or review. For more feedback or suggestions email us at podcast@aasm.org. I hope you'll join us again for more Talking Sleep. Until next time this is Seema Khosla, encouraging you to sleep well so you can live well.