English Transcript

Interview with Dr. Larry Yin

Eyal Ben-Isaac:

Hello and welcome to the Perspectives on Pediatrics Podcast. I'm your host, Dr. Eyal Ben-Isaac recording from Children's Hospital Los Angeles. I had the pleasure of talking to Dr. Larry Yin. Dr. Yin is a good friend of mine and the Division Head of General Pediatrics at Children's Hospital Los Angeles, and also the director of the University Center of Excellence in Developmental Disabilities. I got to chat with Dr. Yin on the topic of ADHD and attention deficit disorders, and the concern that is brought up by many parents and teachers as well, especially when children seem to be having difficulty in school. Dr. Yin did a great job of reviewing the evaluation, diagnosis and management options for children with attention deficit disorders. This was a very clinically applicable session for all of us who care for children and teenagers. Here's my conversation with Dr. Yin. Hello everyone. Today, we are here with Dr. Larry Yin from Children's Hospital Los Angeles. Welcome Larry.

Larry Yin:

Thank you, and thank you for inviting me to speak today.

Eyal Ben-Isaac:

Thank you for joining us and teaching us about ADHD. I thought maybe we could start with a case to help our discussion. A seven year old male is brought into the office because the parents are concerned about possible attention deficit disorder. They say the teachers are complaining that the child doesn't pay attention, doesn't sit still in class. They are worried as it appears to be affecting his academic performance. The parents report that at home, he plays games and watches TV without a problem at all. In the office, you notice that the child is sitting, he's sitting still and is very cooperative with your examination. This seems to be a frequent concern, brought up by parents. Are there other important aspects of the history you would ask to help determine what is going on with this child?

Larry Yin:

Yeah, absolutely. When you think about attention deficit hyperactivity disorder or ADHD, you think also about the prevalence, meaning it occurs in 9% of the population that we know of, so pretty high, in terms of number, and we know it affects more males than females. 5% in males versus 3% in females, but it's probably also that difference because females typically don't present with the hyperactivity kind of symptomatology, but more of the inattention, and so when you're faced with the kind of scenario that you're presenting, about a seven-year-old, who's having difficulty at school, we start to think about the criteria when you're thinking about ADHD as a diagnosis.

Larry Yin:

I think first and foremost, in my mind, when I start to hear kids are having challenges at school, I also want to know if they're having challenges in another place, being at home, at church, or even during doctor visits. I think the important other aspect is age and when it occurs. When you're thinking about ADHD as a diagnosis, you want to know more history and it usually starts with a comprehensive history, finding out more about the pre and perinatal history, the family history -- is there a family history of learning disabilities? Is there a family history of ADHD? Also about school performance and I know we're talking about a seven-year-old in this case, but school performance can actually begin as early as preschool and getting insight from the parents around how a child has done in preschool, how they've done in kindergarten, how they've done in first grade, and so on to give you a sense of how a child has been progressing academically.

Larry Yin:

The other factors you want to think about from a historical standpoint is environmental factors. Have there been changes in the home environment? Has the family structure changed in any way? Has there been a separation of parents or people moving into the home or people moving out of the home that might create a change in the environment, and then you also want to move closely to physical exam, but those are the starting points in terms of when I first hear about a child who's having struggles at school.

Eyal Ben-Isaac:

Excellent. Thank you for those historical points that we should consider. Along those lines, how do we just distinguish a child who's just active and maybe normal for his or her age versus someone who might be suffering from some kind of attention deficit disorder problem?

Larry Yin:

Yeah. That's always a challenge, especially in a clinic environment where you have limited time to gain information from parents and sometimes parents don't remember every detail. So it's best that we tend to use survey tools that can help us understand more of the concerns of the child. Some of the survey tools that are available are called the Vanderbilt Assessment Scale, the Conners 3rd Edition - Short Form, and an ADHD Rating Scale. These are three different surveys that you can use and give to parents to fill out as well as either a school teacher to fill out or maybe the Sunday school teacher to fill out or the karate instructor to fill out, so that you're trying to get a sense of how others view a child's behavior in multiple settings.

Eyal Ben-Isaac:

So that we're on the same page, can you describe the differences between ADD and ADHD and what we are looking for?

Larry Yin:

Sure, sure. So when you're thinking about ADHD, you're thinking attention deficit hyperactivity disorder, and we should probably pause a little bit and talk about the diagnoses of ADHD and what that really means. We use the Diagnostic Statistical Manual Five, that really delineates the features of inattention, the features of hyperactivity, as well as a combination of inattention and hyperactivity.

Larry Yin:

So we have the inattentive sub-type, ADD, attention deficit disorder and then ADHD as its own sub- type, and then a combined type that includes both inattention and

hyperactivity. When you're thinking about hyperactivity, you're thinking about the child who's always going, the motor is always running. They can't stay seated, they're overly talkative, they interrupt, they can't wait their turn. They might intrude or interrupt conversations that adults are having and they may be impulsive and blurting out answers in the classroom or blurting out answers in a conversation before anyone's had time. They also tend to be more restless, just when they're sitting, and they have a difficult time engaging or playing in a quiet manner versus the child who's primarily inattentive, and those children tend to have difficulty with listening and they get sidetracked easily on a task, and you might see their attention really wane quickly.

Larry Yin:

They also might forget where they put items or forget where they left their book or left their jacket. They might forget daily activities that they're supposed to be doing each day, or they might have trouble completing school tasks, or they might actually avoid beginning their school work, and so oftentimes, kids who have inattention, will also have trouble focusing on the details of assignments or details around a task, and so often what you see is a lot of careless mistakes.

Eyal Ben-Isaac:

Thanks for including those clues, including memory, that's really important. When would you recommend we initiate an evaluation and how do we actually make the diagnosis?

Larry Yin:

So I think initiating an evaluation really starts with the parent expressing their concerns about their child, having difficulty paying attention in school, or getting reports from the school that their child is having difficulty sitting, difficulty following tasks, difficulty paying attention to tasks. After doing that history that we're talking about, moving on to physical exam and looking for physical exam findings that might point to other things that could cause one to be inattentive or hyperactive, and you're looking at the cardiovascular exam, you're looking at the skin for skin findings that might be associated with genetic conditions that are associated with

inattention and hyperactivity. The thyroid is another area that you want to focus in on as well as the neurologic system, really starting to look at motor coordination.

Larry Yin:

The other important piece is looking actually at mental health as well, mental health of the child, and getting a sense of, have there been changes in the home that have caused the child to behave differently? Typically, what we hear in kids with ADHD, either inattention or hyperactivity or both is that the symptoms have been present for a long time, since early childhood, and that goes to this issue of diagnosis too. So typically, these symptoms start to occur before age 12, and so if you're seeing somebody at 16, all of a sudden for the first time having new onset symptoms, that's not ADHD. You want to go a little deeper and look for other things. But since in this case, we're talking about a seven-year-old, where I would go next is if everything looks normal in terms of physical exam, the history isn't that suggestive of anything more significant then I would move on to instituting a survey tool.

Larry Yin:

I like to use the Vanderbilt Assessment Scales. It's readily available online. It's available through the AAP, the American Academy of Pediatrics and multiple other sites on the web, but I would give a survey to the parent and then I would also give a survey to the child's teacher and I'd ask them to fill it out and then return it to me, and then I would score it. And basically the Vanderbilt scales will mimic the DSM-V criteria. What you're looking for is six or more criteria in either inattention or hyperactivity or both, six areas in both to make a diagnosis of ADHD.

Eyal Ben-Isaac:

You brought up a lot of important points regarding age of diagnosis. If we do maybe try to diagnose this child at a younger age, sometimes there may not be teachers involved with working with this child. How then do we make the diagnosis?

Larry Yin:

I think if, in the younger age, like four, five-year-old age range where maybe they're not yet in kindergarten, it could be a preschool teacher. It could be a babysitter. It

could be a Sunday school teacher, or any other faith-based classroom where there's a caretaker involved to give insight. It could even be a coach. So I know soccer starts early in many places, it could be a coach. It could be some other person that's involved in the child's life outside of the parent. So even grandparents who would take care of a child might give great insight into their perceptions of the child.

Eyal Ben-Isaac:

Are there other conditions or co-morbidities that we need to assess for? Do we need to test for things like lead poisoning, hearing problems or other things that might be causing similar symptoms and signs?

Larry Yin:

Absolutely. Absolutely. The other things that to think about is not every child who's presenting with hyperactivity or inattention has ADHD. So, the things that we think about are learning disabilities. So for kids where you're starting to see the challenges are mostly in the classroom, that's where you want to understand how their educational progress has occurred, and typically when we see kids who have a learning disability, severe learning disabilities start to emerge very early on in kindergarten, sometimes in preschool, but the more subtle learning disabilities will start to emerge, usually in the second or third grade, where more tasks are being required of the student and the students are expected to keep multiple things in their brain in terms of tasks, tasks to complete and that's when you start to see challenges either in reading or writing or in mathematics. We want to kind of delineate first, is this a learning problem if it's only happening at school, but when you're having a situation where you get these surveys back and it looks like these symptoms are occurring both at school and at home, then you're really thinking more along the lines of ADHD.

Larry Yin:

The history also helps you because if this is like the child who in our case is seven, had no problems up until now, you'll want to know about the environment and you'll want to know about what are the changes in the home and things like that,

because anxiety can also occur in young kids and anxiety will very much look like difficulty paying attention, poor listening, getting sidetracked, things like that, as well as depression, kids who have depression will look like they're not paying attention. They will look like they're getting sidetracked easily. They may actually be fidgety as well. It is a challenge for the pediatrician to kind of discern what you're dealing with but as you get more information about all of the environmental factors, the school performance, you can start to hone in on, is this true ADHD?

Eyal Ben-Isaac:

Definitely a challenge and I want to talk about management options in a second, but before we get there, given the challenge, if we don't diagnose this child or misdiagnose a condition, what potentially could happen? Is it just that they don't do well in school and we're losing those opportunities and that valuable time or other things?

Larry Yin:

Well, when you think about kids who have ADHD and only ADHD, the way I like to describe it, it's like the child where the merry-go-round is going really fast, and the child can't see all the things that are happening in front of them because their mind is going so quickly, so many things are lost. So in the conversations that you're having with your child who has ADHD, they've already moved on to more topics and you're still waiting for an answer, and so that's one of the challenges when you're seeing this and that will manifest itself as behavior because the child is thinking, "Why are you telling me this already? I've already done it," or he's already forgot about the task that you asked them to do and they don't remember, and you're still as the parents saying, "How come you haven't done this?" And he's already moved on to the next thing, if that makes sense.

Larry Yin:

So that's one of the key challenges in all of this. I think in delay of diagnosis, the challenge is the child will continue to struggle, and what they end up doing is they find other compensatory mechanisms to try to kind of socialize with their peers or have more difficulty in school, and I can't say enough about the socialization part. In

children who have ADHD, they have a harder time making friends because they're talking so fast. They can't stay on task in the conversation and so oftentimes, other children will ridicule them, they won't want to be their friends, and so these kids are even more at risk for depression, isolation, loneliness in the classroom. These kids will start to have struggles with their academic progress. So they don't learn as quickly as others because things are lost.

Larry Yin:

When you think about a classroom setting, where a child's asked to come in, sit down, take out your math book, turn to page 57, and we're going to start on problem three, a child with ADHD is probably is at that point of, "Okay. I was told to sit down, I think I was told to take out my math book," and they're going to be looking around the classroom to see what everybody else is doing to try to stay on task. Ultimately, as things get faster and faster and faster in a classroom, these kids start to fall further and further behind.

Eyal Ben-Isaac:

Thank you for mentioning the socialization aspect, really important. So, okay, we got the diagnosis, we made the diagnosis. Now, how do we manage these children? What are the recommendations for treatment and do those vary based on the age of the child?

Larry Yin:

Absolutely. It definitely starts with the age of the child. I think when you're talking about very young children, four to six years of age, the first line of treatment is parent training and it's parent training and behavior management and classroom interventions as well, if the child's in the classroom and it's really helping the parent understand that their child is not trying to be this way, the child is not trying to irritate you, but the child truly has a challenge in maintaining focus and attention. From the parent training piece, it's really teaching parents how to create structure in the home and creating structure in the daily routines and reinforcing positive behaviors in helping children understand kind of what's going to happen next in

that daily routine, and so what you're ultimately trying to show or teach children at very young ages is how to stay organized.

Eyal Ben-Isaac:

Are there any other behavioral interventions that you think can be implemented as well?

Larry Yin:

Yeah, so there's definitely positive parenting techniques. There's the, in the United States, we have something called Parent-Child Interactive Therapy, where you really, you go in and a therapist is working with you and your child, but through a mirror and the therapist is talking in your ear while you're interacting with your child. There's also Dyadic Therapy, working with a therapist and the child and the parent, to try to understand what's driving the behaviors so that the parents understand the triggers to behavior, the triggers to maladaptive behaviors, as well as kind of what it means to have a child who has attention deficit hyperactivity. Again, it's the idea that children who have this condition aren't being willful in this process, that they truly simply need help and they need help with helping them structure tasks. It's also from the parent's side and for young children, breaking down tasks into shorter, simpler steps so that the child can follow through.

Eyal Ben-Isaac:

So now let's talk about medication. So when, and how do we initiate and titrate medications and how do we work with the parents on managing this since they are going to be such an important part of this therapy?

Larry Yin:

So, yeah. When we're talking about the older child, so age greater than six, where you've already done the parent training and it's looking like, boy, the parent trainings helped, but we're not quite there yet, medication can be helpful. I think the other piece of this before I go on to medication is for the older child, is the idea that the school can also be helpful in this process, where the school can also encourage positive behavior in the classroom, through a reward system or a daily

report card of behavior, and the school can help the child with how to organize their time with planning skills and keeping school materials organized. In the school environment, creating a place where there's less distraction for where the child sits and providing those kinds of accommodations, and the parent can do the same things at home, even for the young child with reward systems, a daily report card for behavior, and if, they're able to finish their tasks that were on a whiteboard or a chalkboard, they get a prize for each day and really positive reinforcement of those desired behaviors.

Larry Yin:

But if all of those things are still needing some extra help, then we talk about medication. In the United States, we use, there are really two types of medications, stimulants and non-stimulants. For the stimulants, for the younger children, we use Methylphenidate as a starting. Some people like to use Methylphenidate in the short acting form to start, just to see the response, and the short acting form lasts for four hours. Some folks like to start when they feel like, "Okay, we know this is ADHD. We know we have a good medication in a stimulant. We know this works from other cases," they can start a longer acting medication that will last six to eight hours, sometimes up to 10 hours.

Larry Yin:

The key here is to try the medication when a parent is available so they can gauge how this child reacts and are they going to see effects of the medication? Because usually what we do, is we titrate the medication based on the parent surveys. So what we would typically do is that, remember that Vanderbilt Scale we said to diagnose? There's also, you can also use that to help manage or monitor the effects of medication. So once you place a child on a medication, you want to re-institute that survey, both to the parent and the teacher, to see the response to the behaviors.

Eyal Ben-Isaac:

How about potential side effects of the medications? Parents always ask about that, are there ones that we should be aware of and mention to them?

Larry Yin:

Yeah. Most of the time, what you'll see with the stimulant medications are loss of appetite. When we say, when you see loss of appetite, we always talk about giving medication after breakfast in the morning. You can see, sometimes hear about headaches, stomach aches, and those are the major side effects that we typically see. Sometimes we'll see ticks emerge. So in kids who've had a history of ticks, stimulant medication may make it worse, so you're looking for that. The idea that stimulant medications create longterm side effects, I think, there's not great literature in the research that would suggest that as well.

Eyal Ben-Isaac:

Are there any specific contra-indications to these medications such as heart disease or arrhythmias? I know there was discussion in the past about whether we should get EKGs before starting these therapies.

Larry Yin:

Absolutely, and that's where your family history comes into play, in the past medical history. If the past medical history is suggestive of underlying heart condition, you definitely want to get an EKG, and if it's a more serious heart condition, you probably want to have the cardiologist weigh in, on the use of stimulant medications in this population. But if there is no history, of any form of heart disease in the family or in the child, it's safe to start a stimulant medication, but again, with monitoring and that's the important piece of this is when you start a medication, you want to monitor that medication on a frequent basis, and you want to look for side effects, as well as the positive effects of the medication.

Eyal Ben-Isaac:

So we reviewed stimulants and non-stimulants, are there other medications such as anti-psychotics like Risperidone or antidepressants that may be indicated in these children?

Larry Yin:

So for ADHD, we typically don't use atypical anti-psychotics for the treatment of ADHD. If we feel like a stimulant isn't going to work, another medication would be the non-stimulants and that would include Atomoxetine, Guanfacine, or Clonidine. There is some research that suggests that maybe the antidepressants might have an effect with inattention or hyperactivity, but we tend to use the non-stimulants as well as the stimulants, to try to manage the symptomatology.

Eyal Ben-Isaac:

So since school is such an important part of all of this, how do we work with the school teachers to help these children?

Larry Yin:

Yeah, sometimes, many school teachers often already know about ADHD because they've been teaching for so long and they've had other children, but it's really about what can be done in the classroom to support the child? Some of the accommodations that we encourage teachers to think about is extra time on tests or tailored kinds of assessments, and so if a child is expected to do a hundred problems on a homework assignment, maybe the child with ADHD only has to do 50, to show that they have skills or knowledge to achieve that, so that they don't have to do every problem. It could also be having their seat in a place in the classroom with the least amount of distraction. For some kids, writing is very slow and arduous and sometimes keyboarding might be a faster way for them to keep up with the types of writing tests that are needed.

Larry Yin:

Those are the main things. The other kind of things that we see in the classroom to help these kids is to let them have breaks in the classroom. So having a child sit for three hours in a chair is very difficult for someone with ADHD, and we allow kids to get up, take a break, and then come back to the work, while in the classroom. That's just accepted part of being in the classroom for this specific child, and we find that those types of accommodations tend to support the child in a more positive manner.

Eyal Ben-Isaac:

Is it also important to note that this is a chronic condition?

Larry Yin:

Well, that's the number one thing is to understand that ADHD is a chronic condition. The other key important piece is that if you do try to use or are using medication, parents need to understand that medication isn't designed to be forever. I think that oftentimes parents have a reticence for trying medication because they think that their child will be on medication forever. The value of medication is to really help that child kind of slow down and learn.

Larry Yin:

Medication doesn't make one smarter, but it helps them in their learning process, and in that learning process, they can learn to stay more organized. So they'll learn strategies of how to stay organized in their schoolwork, and so they'll be able to put their homework in one folder, their assignments for the day in a different folder, they'll have a different tab for each subject and they will go through school like that to the point where they then understand, during this process, it's this idea that they then learned the socialization skills of what it means to carry on a conversation and play collaboratively with peers, so that down the road, they may not need to be on medications because you already learned these kinds of social skills as well.

Larry Yin:

I think the other kind of key take-home point is really helping families understand that this is a chronic condition, that there is help and that the other piece of any kind of chronic illness is frequent followup with their pediatrician and frequent checking in on how things are going, either on medication or not on medication. I think the other piece of this is transition planning, when you're going from elementary school to middle school, to high school, and each of those transition points and the challenges or the unique challenges each of those stages present.

Eyal Ben-Isaac:

Yeah, really good points to include when in our discussion with the family so they really should be aware of those aspects, and when considering how do we manage

the medication, so thank you. This was incredibly informative and very educational. So are there specific takeaway points that you would like our audience to keep in mind?

Larry Yin:

Yes, absolutely. This idea that ADHD is a chronic condition, that does change in how it presents over time, and typically what we see is as kids who get older, the hyperactivity tends to get better with maturation, but they still will have challenges with inattention and they're going to still need help with staying organized and staying on task and following through. I think the other key takeaway point is medication is not forever. Our goals are to use medication like you use all medications, to support the child, but in this kind of scenario, it's to support them to learn skills that they can then use, while not being on medication.

Larry Yin:

Then for the caregiver, the pediatrician, it's really developing the relationships with patients and their families, and really understanding this condition and understanding the family needs and their priorities, and again, the continuity of care and the ongoing monitoring, I think, are really key take away points. I think medication alone is not the recommendation either. It's really a three-pronged approach, when you're thinking about treatment of ADHD. Medication can be one of them as the third prong, but also to think about parent training as the number one prong, and then for the school-aged kids, having school involvement and supporting that child's education and helping them make it through each day successfully. Then if those two elements need greater support, medication management, either with the stimulant medication or non-stimulant medication may be in order.

Eyal Ben-Isaac:

Thank you so much, Larry. Great review. Thank you for always educating me. Thank you for educating our audience today. Great job.

Larry Yin:

All right, well, thank you again, Eyal, for the opportunity. There's some great websites available for folks who are interested. I think what I point parents to, parents of children who have ADHD is a website called Chadd, Chadd.org. For parents, they could also use the CDC website, cdc.org, and if you put ADHD in the search engine, you're getting a lot of good information from the CDC, the Centers for Disease Control. Then the other important organization is the American Academy of Pediatrics, AAP.org. They provide a lot of resources for pediatricians on the evaluation tools, on the approach, as well as on the medication management side of ADHD.

Eyal Ben-Isaac:

Wonderful. Thank you for including those. I hope you enjoyed my conversation with Dr. Yin as much as I certainly did. If you'd like to hear more from pediatric experts, subscribe wherever you listen to podcasts and keep in touch with us by subscribing to learnwithopen.org and check out the links and resources in our show notes.