

April Dinwoodie: Welcome to the NTDC, Right Time Podcast: Impact of substance use. I'm your host, April Dinwoodie. This podcast works in conjunction with the classroom based training on the impact of substance use, providing an introduction to the material that will be covered in the classroom. This podcast will also be a resource for parents to go back to as children in their home transition through different developmental stages. In this episode, we welcome Dr. Julian Davies, a clinical professor of pediatrics at the University of Washington and Seattle, working on the fetal alcohol diagnostic team. Dr. Davies earned his MD from UC San Francisco. His clinical research interests include international and domestic adoption. Today we'll be discussing the impact of substance use specifically related to alcohol. Information about how exposure to other substances may affect children will be covered in other parts of this theme. Welcome to the podcast Dr. Davies.

Dr. Julian Davi...: Thank you for having me April and Julian is fine.

April Dinwoodie: Great. Thank you. We've got a lot of ground to cover. So we're going to jump right in. What are the diagnoses children can receive who were prenatally exposed to alcohol?

Dr. Julian Davi...: Alcohol during pregnancy can lead to a number of diagnoses under are this umbrella of fetal alcohol spectrum disorders, which is also called FASDs. The original and most notorious diagnosis is fetal alcohol syndrome, which involves poor growth, which can be at birth or after. Also a subtle set of facial features and having evidence of brain damage. But most children affected by prenatal alcohol don't experience all of those outcomes. So they may be missing some of the physical features, but have equivalent brain dysfunction and thus be diagnosed with what we call partial FAS, or they may only have neurodevelopmental impacts and those can range from mild to severe.

April Dinwoodie: Julian. Can you give us some examples of the neurodevelopment impact?

Dr. Julian Davi...: Sure. At the milder end, you might see some problems with focus or difficulties in math, all the way up to intellectual disability, which is what we now call mental retardation. There can be severe behavioral challenges and difficulty functioning independently as an adult. What we learned is that the fetal alcohol spectrum is notorious for variability. Different kids can be affected in very different ways. And each individual might themselves have a variable profile where they have areas of really significant brain dysfunction, right next to more intact skills. And also that same child may be variable in how they do their performance from day to day or from environment to environment.

April Dinwoodie: That's so helpful. So there's also some diagnostic terms that I think our listeners might be helped to understand a little bit. Can you help us there?

Dr. Julian Davi...: I can. A number of diagnostic terms have been used over the years to try to describe the cognitive and behavioral impairments that stem from a history of

prenatal alcohol exposure. If you've heard the term fetal alcohol effects or FAE, we no longer use that term. But you might hear about diagnoses like neurobehavioral disorder associated with prenatal alcohol exposure, abbreviated ND-PAE, or static encephalopathy, alcohol exposed, or alcohol related neurodevelopmental disorder, or ARND. Which is alphabet soup I know and none of those roll off your tongue, but the bottom line is that alcohol can damage almost every part of the developing brain. And these impacts are lifelong.

Dr. Julian Davi...: Our listeners might be wondering what amount of alcohol causes, what diagnosis and unfortunately it's just not that predictable. The differences in timing or amounts of alcohol exposure in birth mother factors in fetal genetics and also just what other prenatal risks are present, make it impossible to predict what impacts alcohol will have for any given pregnancy. Generally, we worry most about repeated binge drinking episodes in the first trimester, but unfortunately alcohol can damage the developing brain at any point during pregnancy. We've truly not been able to identify a safe threshold for alcohol. So if your listeners have heard that having a drink or two a day is safe during pregnancy, then unfortunately that's incorrect.

April Dinwoodie: Thank you so much Julian, for the level of detail here. I think it's really important for our listeners to hear that. So now how can some of these diagnoses related to fetal alcohol syndrome impact a child's behavior?

Dr. Julian Davi...: Generally speaking, we've learned that if the face of fetal alcohol syndrome or growth problems are present in an alcohol exposed child, the risk of brain dysfunction is higher. But on an individual basis, any fetal alcohol spectrum diagnosis has the potential to cause very significant impairments. Children with FASDs can seem stubborn, defiant, dishonest, or have great difficulty regulating their emotions and behaviors. And that can be really frustrating of course, for parents, teachers, and caregivers. We've found that it's very important to take a detective attitude towards challenging behaviors in FASD as those behaviors often stem from deficient abilities or unmet needs.

Dr. Julian Davi...: We talk a lot about can't versus won't in clinic or how behaviors that look willful are actually lack of skillful. Not understanding a task can really seem stubborn. Having memory retrieval problems can seem like making things up and having difficulty understanding personal property concepts can really look like stealing. Children in general, who were overtaxed by routine expectations or overwhelmed by certain environments notoriously like busy overstimulating classrooms can really go Tasmanian on you because they're dysregulated and they lack the skills to tell you that or to self calm. It's really important to get FASDs diagnosed early in a child's life if possible, so that caregivers and teachers can start this reframing process and get effective supports in place.

April Dinwoodie: Amazing advice and knowledge here, Julian, thank you. Can you help us understand some common characteristic seen in children exposed to alcohol prenatally?

Dr. Julian Davi...: Absolutely April. The impacts on the brain are quite variable as I mentioned, but they can include some or a lot of the following, lower IQ and that could include intellectual disability, but often the IQ scores we see are in the low average to borderline range. IQ by itself is actually not a good predictor of how folks with FASDs will function because their academic scores will often fall below where their IQ is and their real world functioning or what's called adaptive skills are often even more impaired. ADHD is very common as are difficulties with judgment and impulse control. Then there's language and social difficulties. Kids with FASDs often have a reasonable vocabulary and use of simpler language. And so actually can seem maybe more adept or functional at first meeting than they actually are, because they often have trouble with more complex language use, like making sentences and stories that are grammatically correct and hang together.

Dr. Julian Davi...: Their social communication often struggles. They may not read cues or understand nuance or sarcasm or understandably keep up in faster paced social situations like in middle and high schools. Speaking of schools, learning to disabilities are frequent. We can have memory problems, whether it's filing things away in memory or being able to retrieve them and perhaps differences in abilities in visual versus verbal memory for example. We see a lot of motor and coordination challenges such as just being a kid that likes to move fast and bash and crash around, but struggles with balance and coordination when you really slow that child down.

Dr. Julian Davi...: Fine motor abilities like handwriting are often impacted. Sensory processing is a big issue. So you might have a child that's over sensitive to certain things like light or noise or touch, but also at the same time, craving intense sensations like tight hugs or swinging and rocking or back flips off the couch. And especially common on the fetal alcohol spectrum are impairments in executive skills. And those executive functions are essentially the higher level brain skills that develop later in life. And that help us with using different areas of the brain together to solve problems and make good choices. Individual with FSDs have daily functioning skills and life outcomes that are often more impaired than their IQ alone would predict. And that's likely because of executive function and difficulties.

April Dinwoodie: So would it be correct to say that FASD is a brain injury?

Dr. Julian Davi...: You know alcohol affects the fetal brain at so many levels and by so many mechanisms but yes, April, I think it's fair to think of it as a prenatal brain injury or brain damage.

April Dinwoodie: Are children who are prenatally exposed at higher risk to eventually abuse those substances themselves.

Dr. Julian Davi...: Unfortunately, yes. Now it's hard to precisely assign blame to pregnancy when there are many other factors that influence substance use, but at least for prenatal alcohol, nicotine, and marijuana, we have seen higher rates of later use. The thinking here is that you may have a genetic risk for substance use problems together with the brain changes of being exposed to substances in the womb, all mixed up with the risks from childhood, such as whether your caregivers were using substances, childhood stress and trauma, school difficulties, peer influences, and so on.

April Dinwoodie: So are children with fetal alcohol spectrum disorder, more likely to have mental health disorders as well?

Dr. Julian Davi...: Yes. Mental health disorders do seem to be common in studies with people with FASDs. Although the truth be told, we don't currently know how much blame we can put on prenatal alcohol when there are very high rates of parental mental health histories and adverse childhood experiences, which are big part of the risk here. If you think about it, kids with FASDs can have a tough time in school for so many reasons, and they may also struggle socially. They get a lot more than their share of negative feedback from others, and often feel overwhelmed or bombarded by sensory input, or just confused in certain situations. We really feel that stability structure, simple concrete instructions, having consist between the approaches at home and school and reducing sensory overload may help. Practice for kids in self calming strategies and self advocacy are also really important. We think that protecting youth with FASDs by parenting them at their acts-like age rather than their actual age is important as it's so easy to go astray or be victimized in adolescents.

Dr. Julian Davi...: When you might have say eight year old social, emotional age with the body and hormones of a 15 year old. It's so easy in FASD to focus on deficits and the negatives, but perhaps most important is to promote resilience by finding areas of strength and interest that can be encouraged. And those may often be outside of school, feeling competent, successful, passionate in something is essential, whether it's a sport or music or art or even just in helping others, humans, animals, you name it. We really encourage promoting secure relationships with loving adults because we know that's protective as well as positive friendships. Even if those friendships are with younger or older people that might be a better fit or more tolerant of challenging behaviors. Adequate sleep, of course, exercise all the basics and regular special time with caregivers are also key basic ingredients for success.

April Dinwoodie: Thank you so much, Julian. This is such helpful information. So when we think about solutions and we think about what might help has traditional talk therapy shown to be very effective with children who were prenatally exposed to alcohol.

Dr. Julian Davi...: Great question. And unfortunately it's not been well studied. If a child has more intact language and cognitive abilities, then certainly evidence based talk therapies can be really helpful for things like depression, anxiety, or complex trauma. But it's crucial that the caregivers and providers really be aware of the child's ability to use language and thinking skills and therapy, and also to understand the child's social, emotional age, or their acts-like age when choosing therapies. If for various reasons traditional talk therapy, isn't a great fit for the needs, the field has been looking at a number of other approaches for helping kids with FASDs and some very promising practices so far have included really concrete practice in help in identifying how you're feeling inside and then self-regulating or self calming or matching your energy level to the situation. In addition to that at work on self-regulation the behavioral detective work that I talked about earlier actually is being studied for kids with FASDs and their caregivers, where you essentially train kid's parents, and teachers, to be those behavioral detectives using something called functional behavioral analysis.

Dr. Julian Davi...: And when you do that, you can get at what those behaviors are communicating, what those unmet needs are, what might be going on in the environment or situation that needs to be changed if you can't change the child. And those approaches are looking very promising and I think are a great fit. If you have a child with language or, or cognitive abilities that traditional talk therapy isn't effective. What's pretty exciting about that behavioral detective approach is that the original, what was called families moving forward program that was studied, is now being adapted and turned into an app for parents and caregivers, which really teaches them these techniques, coaches them through it, helps them set goals, helps them do those behavioral analysis and then make changes to their child's schedule or environment or their expectations, or honestly how they respond to their kids in ways that we think are really helpful. I've had a chance to try out an early version of that app and it looks fantastic. So I'm really hopeful that that comes out in the next year or two so that families can use it.

April Dinwoodie: Well Julian, there's so much to think about, but there's also so much to be hopeful about, and we are so grateful for your contributions to this conversation about such a critically important topic. So thank you for being with us today.

Dr. Julian Davi...: It was really my pleasure April. Thank you so much.