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Module 12: Causes of ADHD

In this module, we'll look at the causes of ADHD and other conditions that can co-occur with ADHD or even be mistaken for ADHD. We'll also look at the role environment plays in the management of ADHD symptoms. Believe it or not, what surrounds you has a tremendous effect on symptoms and on the family.

12.1 Understanding the causes of ADHD

12.2 Recognizing other medical conditions linked to ADHD

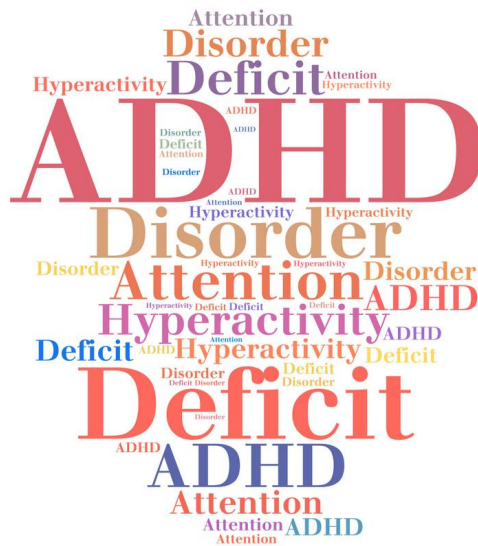
12.3 Managing ADHD in your home





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12.1 Understanding the Causes of ADHD

As much as we know about ADHD, one thing we don't really know for sure is what causes it.

What we do know is that the development of ADHD is thought to be associated with:

- Genetics
- Pre-natal factors
- Head Trauma
- Exposure to environmental toxins

Contrary to popular belief, ADHD is not caused by things like too much sugar, too much TV, poor parenting, poverty or family dysfunction. These factors can certainly make symptoms worse but they have not been found to be the root cause of someone developing ADHD.

Quick Fact *ADHD has not been shown to be linked to eating too much sugar*

Genetics

ADHD tends to run in families. Having a close relative such as a parent or sibling with ADHD increases the risk of having ADHD.

- If a parent has ADHD, a child has about a 50% chance of being diagnosed with ADHD as well. If an older sibling has ADHD, the chances of a child having ADHD is about 30%.



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- According to the National Institutes of Health's (NIH) ADHD Genetic Research Study, at least one third of fathers with ADHD will have children who will be diagnosed with ADHD.
 - Genetic factors are thought to account for about 70-80% of ADHD occurrence.



Researchers have been working hard to identify and understand the genetic mechanisms that contribute to ADHD heritability. Family and twin studies have found genetic linkages and even identified a number of potential genes that may play key roles in ADHD.

So, does this mean that if someone in your immediate family has ADHD that you will too? Not at all. What it does mean is that the chances are increased. Whether you develop ADHD or not depends on what genes you inherited and what other factors may predispose you to or protect you from developing ADHD. There are just still things we don't know.

While we know that ADHD heritability is about 60% to 80%, that leaves a lot of room for other factors that may determine whether someone is susceptible to the disorder. Some connections are beginning to emerge.



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Pre-Natal Factors

Science has come a long way in helping us to understand what happens in the womb in the months before a baby is born. We now have the capability to measure certain conditions in utero, see the child as he or she develops and even sometimes intervene to correct or treat a problem prior to birth.

We know that what the mother ingests or is exposed to can affect the developing baby. Neurological development occurs throughout the pregnancy and is highly susceptible to damage from chemicals and toxins.

ADHD appears to be correlated with:

- Cigarette smoking during pregnancy
- Alcohol use during pregnancy
- Drug use during pregnancy
- Exposure to environmental toxins during pregnancy
- Stress of the mother



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It might surprise you to know that long-term pre-natal exposure to acetaminophen (paracetamol) may place babies at greater risk for developing disorders such as autism and ADHD. Pre-natal caffeine use has also been mentioned in the literature as a possible risk factor as well as some vitamin and mineral deficiencies.

So, does this mean you can never have a cup of coffee while you're pregnant? That depends. Those decisions are best made between the healthcare professional and the mommy-to-be.

Quick Fact

Not every exposure is from a known harmful or illicit source. Sometimes it can be from common things we consume on a routine basis and would not readily associate with a risk for ADHD

Head Trauma



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Closed head injury (CHI) is the most common form of head injury in children. CHI means that the brain and its membranes have not been broken as a result of the injury.



There is a well-recognized connection between head trauma and ADHD. Research has shown that head trauma, in particular those injuries that affect the brain's frontal lobe, can result in behaviors similar to those found in ADHD. A significant number of children with brain injuries develop what is believed to be post-injury ADHD. But there's more to the story.

A growing body of research suggests that while a clear connection of some kind exists between ADHD and head trauma, the trauma may not *always* be the only reason ADHD emerges. It now seems that ADHD may contribute to incidents of head trauma. A significant number of children were found to have ADHD symptoms prior to their injury. These findings have led experts to consider the possibility that ADHD, due to the impulsive behaviors, may be a factor in some head injuries.

So the head trauma and ADHD connection may be a both/and situation. We just don't have enough information yet. There is still much to be learned about the relationship between head trauma and ADHD.

Exposure to Environmental Toxins



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Exposure to various environmental toxins and chemicals has long been suspected to a factor in the development of ADHD.

Some of the more common toxins that have been identified with possible links to ADHD include:

- Lead – often found in paint
- Mercury – often consumed in contaminated fish
- Manganese – found in contaminated water and soil
- Polychlorinated biphenyls (PCBs) – once used in paints and wire insulation. Banned in the US since 1979

These toxins have been linked to hyperactivity, cognitive problems and neurological disturbances seen in ADHD and other disorders.

While toxic exposure is not common, it is something to be mindful of if sources are a risk for your area.



12.2 Recognizing Other Conditions Linked to ADHD



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Is it ADHD or is it something else? That is the question that even the most skilled clinicians grapple with. Especially in younger children, certain disorders can look very similar in their presentation.

Some of the disorders or conditions that are sometimes mistaken for ADHD include:



- Bipolar Disorder
- Autism Spectrum Disorder
- Anxiety Disorder
- Fetal Alcohol Syndrome
- Learning Disorders
- Impulse Control Disorders
- Tourette's Syndrome
- Sleep Problems
- Kids just being kids

Some psychiatric disorders can co-occur with ADHD meaning you could have both:

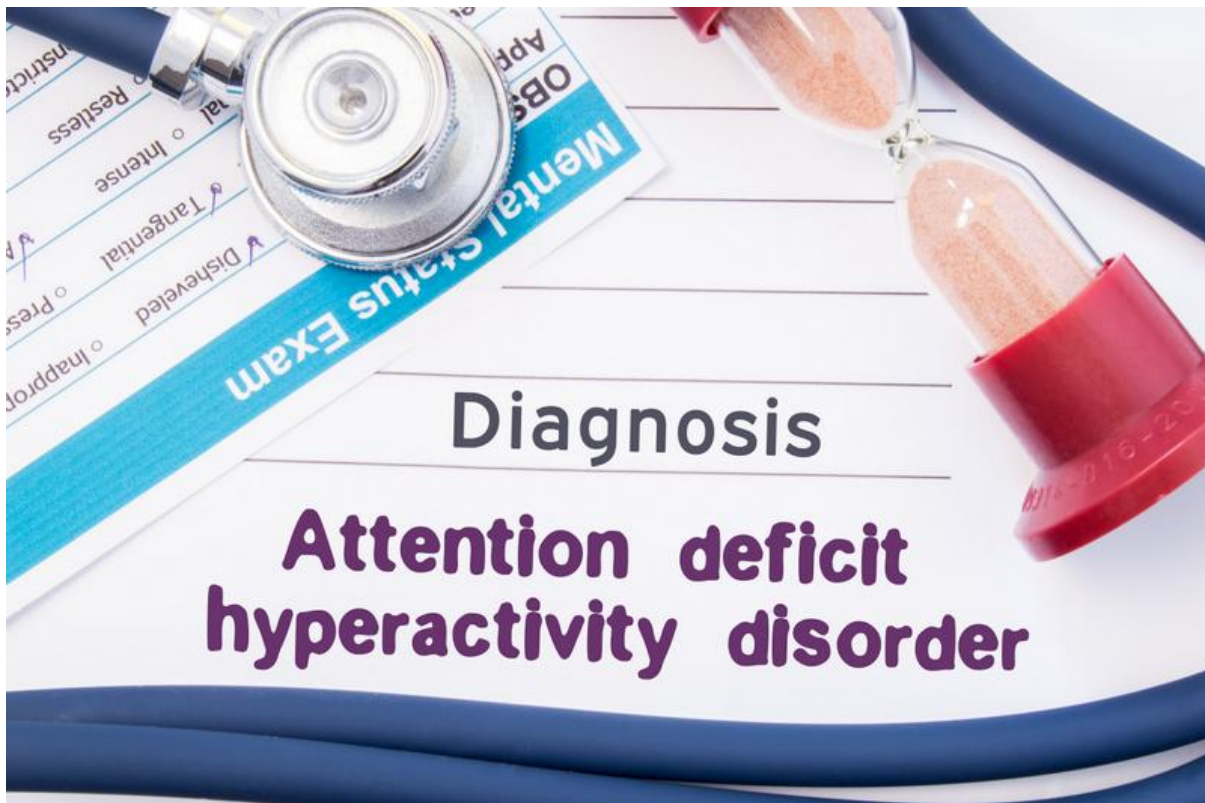
- Oppositional Defiant Disorder
- Depression
- Anxiety Disorders
- Autism Spectrum Disorder
- Tourette's Syndrome

As if the water isn't muddied enough, an undiagnosed medical condition can sometimes present in such a way that at first glance, it looks like an inattention or hyperactivity/impulse problem



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- Seizures, especially petit mal seizures which may only last moments
- Hearing or vision problems
- Sleep disturbances
- Nutrient deficiencies or sensitivities
- Lead toxicity

These lists are by no means all-inclusive but you get the idea. It is *not* a matter of ticking off a few symptoms on a checklist and *voila!* a diagnosis of ADHD is made. Diagnosing ADHD or any other disorder requires a full and complete medical and clinical assessment to rule out other conditions that could be present.

Treatment plans are based on those assessments. You want to be sure that the treatment plan is specific to the correct diagnosis based on the best information available at the time. The right treatment can be life-changing. Treatment based on an incorrect diagnosis can be disastrous.

Over-activity in most kids is normal and not an indicator of ADHD. Some kids tend to just be more active than others. Trust your instincts. You know your child better than anyone and can determine whether you have a rambunctious child or one with a more persistent inability to manage behaviour



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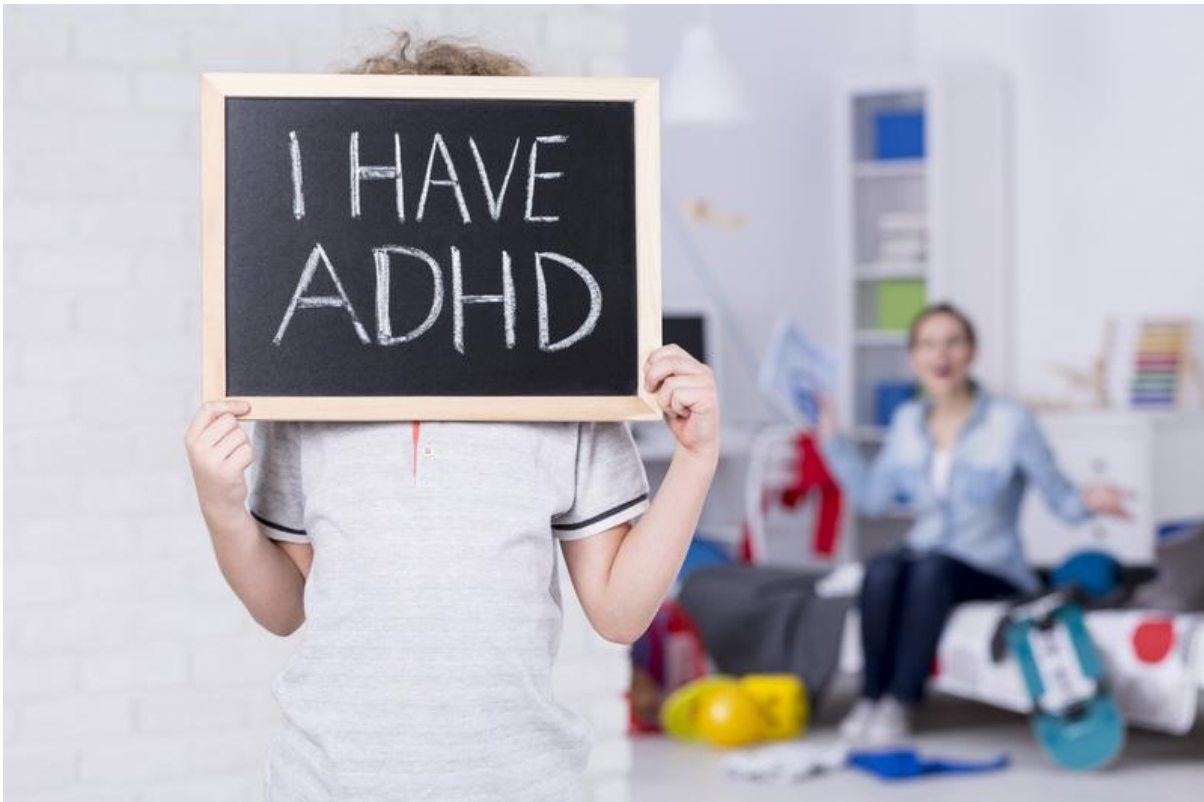
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12.3 Managing ADHD in the Home

You've gone through the assessment and diagnostic process and your child has been diagnosed with ADHD. Now what?

First, breathe. The situation may seem overwhelming but it truly is manageable. Your treatment provider has most likely given you recommendations for medication, counselling or maybe both.

Second, know that there are things you can do beyond the treatment plan to set your child and the family up for success.



When someone in the family is diagnosed with ADHD (or any other condition), the dynamics change.

Dealing with ADHD is a family affair. And believe it or not, what you may choose to implement to help your ADHD child may just end up strengthening your family in ways you've not seen before.

Beyond meds and counselling, environment plays a huge role in symptom management. Environment can include the way we do things, where things are, what the surroundings look



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like, sound like, and smell like. The factors can make symptoms worse or make them more manageable.

In this section, we are going to talk about practical, hands-on ways to help your child and your family deal with the realities of ADHD so that you can move forward strong, united and supported. Ready? Here we go!



Transparency

Once the diagnosis is made, it's important to sit down with everyone in the family and explain what's happening.

- Explain the situation and what to expect
- Allow each person to ask questions and share feelings
- Validate feelings. Not everyone will feel the same and that's ok.
- Listen to understand
- Identify ways to support each other

Regular Family Meetings



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Family meetings are a great way to check in with each other. Family meetings are a time to share successes and struggles, ask questions and support each other.

Kids won't always speak up directly and say what they're feeling or struggling with. They often communicate through play and activity. Family meetings give kids a sense of security and belonging. This can be especially important for a child dealing with a new diagnosis that he or she may not understand or may worry makes them different.

Getting everyone together for a "meeting" is like herding cats. Make family meetings fun by building them around something the family can enjoy:

- Plan a pizza and game night
- Do round robin style check-ins like "High/Low" before starting the meeting
- Let each child take a turn in planning the meeting. Include a time for check-in, discussion, something fun
- Have the meeting in a fun place – camped out in the living room or by the backyard pool

There are no right or wrong ways to do your family meetings. Use your imagination and be creative. The important thing is to check in with each other, discuss any important business, support each other and have fun. When kids know the grown-ups are handling the grown-up business, they can relax and be kids.

Establish A Routine

The good news is that routines are for everyone! Routines provide structure and help kids to know what comes next. This is especially important to kids who struggle with transitions or sequential directions.

Children with ADHD struggle with regulating their impulses and maintaining focus. Routines act as external controls for your child. As they transition through their daily routine, they are learning impulse control skills and building good habits. And with each success comes increased self-confidence! They're learning that they can do it!

One *Family meetings should NEVER be used as a time*
Caveat *for discipline discussions*



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Establishing a routine does not have to be complicated. You can start with simple, daily tasks:

- Establish a wake-up time and morning routine (dress, bathe, breakfast, etc.)
- Establish an afterschool routine (snack, homework, play, etc.)
- Establish regular mealtimes
- Set a firm, lights-out time. That means no falling asleep with the TV. A white noise machine may be helpful for kids who struggle with a room being “too quiet” or if there is outside noise.

Create Quiet Spaces

Children with ADHD can be easily over-stimulated. When that happens, symptoms can ramp up quickly and regaining control can be really hard, especially in the early days of a new diagnosis.

One way to help them stay in control is to practice their self-calming skills. Some easy ways to do that is to create spaces that are designated “quiet spaces”. These spaces can be used routinely



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for daily quiet time or for times when they are getting over-stimulated and need a quiet space to collect themselves.

Here are a couple of easy ways to create quiet spaces:

- Establish an evening 'quiet time'. All TVs, computers and electronics go off.
- Everyone can enjoy a quiet activity. Think reading, puzzles, drawing, etc.

This quiet time signals to the brain that it is time to start powering down and preparing for sleep. Ideally, this should occur about 30 minutes to an hour before bed. This time can be especially important for kids with ADHD who often have sleep difficulties.

Create a 'cool down space'. This idea is known by lots of different names and versions but the idea is to have a designated space where one can go to calm down, chill out and get it together ideally before a meltdown happens. You can fill this space (which doesn't have to be big) with soothing things like a fuzzy blanket, a pillow, books, kinetic sand or modelling clay, stuffed animals. The idea is for the person to engage in soothing activities that promote calming and regaining composure. Avoid electronics, noisy toys or things like bubbles or crayons that can be a mess in the hands of an angry child.

Make Time For Play

We know that exercise is good for overall health, stress-reduction and a host of other physiological and mental health functions. But did you know that exercise can also help children with ADHD improve their thinking and decision-making skills?



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Fast Fact

Little ones, kids without ADHD and even grown-ups can benefit from using quiet spaces. Sometimes there's nothing better than 'time-out on purpose'

A recent study found that exercise significantly decreased the severity of ADHD symptoms in children. Even better, their cognitive functioning improved. In particular, the study found that cognitive performance and brain function improved in tasks that require executive control.

Exercise can be solo or as part of a team. Team sports can be great but make sure your child is ready for that. Kids with ADHD struggle with self-confidence sometimes so be mindful and ask your child what his or her feelings might be.

Exercise should be fun. And it can be a family affair. Take a walk. Find a local bike trail. Visit the local pool together. Being active doesn't have to be complicated or expensive. The most important thing is being together and having fun.



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Make Time for 1:1



Having a child with ADHD can seem to take up so much of your time. Other family members may feel left out or like they are not as important. They may be missing how it was “before”.

Plan one-on-one time with each of your kids now and then. And don't forget your significant other. They're all in this with you and they may be missing you. These can be special times where you do something together and reconnect. Things like a



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mommy-daughter day, going to a game with your teen son, even a date night with your spouse allows you to reconnect and strengthen the relationships in your life.

ADHD doesn't have to define your life or control your life. Yes, how you do things might need to be adjusted but it's ok to continue living and loving life. It's ok to enjoy spending time with those you love. And, this is the hard part, it's ok to not think about ADHD 24/7.

[EXAM LINK](#)