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Environmental Strategies for Managing Attention Deficit Hyperactivity Disorder

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Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a fairly common disorder, typically identified in childhood. When a child is diagnosed with ADHD, regardless of which specific type, parents often wonder “What can I do to help my child?” Generally, helpful interventions fall into the following categories: 1) medical interventions; 2) environmental modifications; 3) academic skill-building; and 4) social skill development. The main focus of this article will be the environmental modifications which are often helpful to children with ADHD, however the other three types of interventions will be discussed briefly as well. This article is intended to be a resource which practitioners can share with parents whose child has been diagnosed with ADHD.

Keywords: ADHD; Environmental modification; Management strategies; Parents

3. Academic skill-building;
4. Social skill development.

According to Barkley and Murphy [3], one of the most effective treatments for managing the symptoms of ADHD is educating parents and teachers about the nature of ADHD and its management. Accordingly, the main focus of this article will be the environmental modifications which are often helpful to children with ADHD, however the other three types of interventions will be discussed briefly as well. This article is intended to be a resource which practitioners can share with parents whose child has been diagnosed with ADHD.

Medical Interventions

ADHD has a biological basis. There is a strong genetic component, meaning that ADHD runs in families. Barkley and Murphy [3] have reported that genetics account for 80 percent of the behavioral symptoms of individuals with ADHD. All of these genes are expressed in the brain, and affect neurological functioning in ways which impact attention and self-regulation. For example, there are chemicals in the body-called neurotransmitters-which may not be at the levels which they need to be in certain areas of the brain because they are not being released properly, or because they are being re-absorbed too quickly. There are various types of medication which can compensate for this. Some types (such as stimulant medications) assist with the release of neurotransmitters. Others (such as reuptake inhibitors) help to keep the level of neurotransmitters higher in the gap between nerve cells. Other types of medications work in other ways. Which type of medication might be most helpful for your child is a discussion to have with your child’s doctor. Not every medication works well for every child, so it is important to work with your doctor as he or she determines the correct type and dosage of medication which will be most effective for your child.

Environmental Modifications

Apart from following the recommendations of your child’s doctor regarding medication, one of the most important things a parent can do to assist their child in managing the symptoms

Introduction

Attention Deficit Hyperactivity Disorder is a fairly common disorder, typically identified in childhood. The exact prevalence rate is an issue of some debate, and studies vary considerably in their estimates [1]. Polanczyk et al. [2] conducted a comprehensive review of ADHD prevalence studies from around the world published between 1985 to 2012. They found no evidence of an increase in the number of children in the population who meet criteria for ADHD when standardized diagnostic procedures are followed. Average prevalence across time and around the world was found to be approximately 7%.

When a child is diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), regardless of which specific type, parents often wonder “What can I do to help my child?” Generally, helpful interventions fall into the following categories:

1. Medical interventions;
2. Environmental modifications;

of ADHD is to put in place a range of environmental modifications. Simply put, environmental modifications are about structuring a child's environment, and having supports in place that enable a child to be more successful in various areas of their life. Many of these strategies can be used in multiple settings.

Structure and routine

Structure and routine are important for all children, but particularly so for children with ADHD. Because they struggle with organization, if their day is organized for them, it is much easier for them to do the things they need to do. Routines around transitions are particularly important. Morning routines (routines for getting up and getting ready for the day; routines for the transition from home to school); routines around homework; bedtime routines; etc. can help a child's day to "flow" better, with more success and less negative feedback from adults. Structure and routine are important at school too. If there are options available at your child's school (i.e. if there is more than one teacher teaching a particular grade) request a teacher who is both kind, and who uses a structured approach in his/her classroom. There should be routines for transitioning into the classroom and starting the day; routines around transitions (to gym, music, recess, etc.), a daily schedule posted at the front of the class, and structure within each subject period (for example, instruction time followed by question or demonstration time, followed by work time). Regardless of the setting, warnings of upcoming transitions are often helpful (for example, a 5 minute and a 1 minute warning). These can be given verbally, but visual timers often work best.

Use checklists

Checklists can be used to break large tasks or assignments down into smaller parts. This helps children to remember what they were to do, and also helps them monitor their completion of the task. Checklists can be used to support routines (for example, a task list posted in the bathroom or child's bedroom with the steps involved in getting up and ready for the day); chores; and homework. You can also ask your child's teacher to use checklists at school. Younger children might need cueing from adults to refer to the list to know what they are supposed to be doing. Older children can learn to check the list themselves and self-monitor. For children who cannot yet read, picture lists can be used. For older children, as assignments at school get more involved, their teacher should be able to provide a detailed rubric (a list of the steps involved) for detailed or project-based assignments.

Provide cueing as needed

Children with ADHD typically require frequent cueing to remain on task. Parents often need to sit with young children, or check in with older children to remind them to attend to the task at hand. Some parents make the mistake of thinking that their child is lazy because they have difficulty getting work done independently. This is not true. Difficulty with work

completion is one of the symptoms of ADHD. Use both verbal cues (e.g. "Ok, Let's get back to your math now." or "What are you supposed to be doing?") and visual cues (task lists; visual schedules; assignment rubrics, as described above). In a classroom setting, there are usually many more distractions than there are at home. However, if the teacher is cueing your child verbally all day, other children may find this annoying, or develop the impression that your child is the "bad" kid. Speak with your child's teacher about nonverbal cues that can work. This may be as simple as the teacher touching your child lightly on the shoulder and pointing to the work on their desk as he or she walks by. It may involve catching your child's eye and giving him or her a hand signal (agreed upon in advance) to listen, or to get back to work. There will be times that verbal cues will be necessary. However using a mix of visual and verbal cues can help to protect your child's self-esteem and social standing with his or her peers.

Minimize visual and auditory distractions

Many people mistakenly think that when a child has ADHD, he or she is not capable of attending. It is more accurate to say that ADHD makes it extremely difficult to attend to the correct thing. For most people, when they are focusing on something, other things in the environment fade into the background. For individuals with ADHD, everything in the environment remains foreground. So, the sound of the TV on in the next room is just as "front and centre" as the voice of the parent who is telling them to do (or not do) something. The sound of a conversation at the back of a classroom is just as "front and centre" as the teacher explaining a lesson. When this is the case, it is very difficult to focus on the correct thing, and the child is frequently distracted by other things in the environment. This is why it is helpful to reduce the number of "extra" things a child might see or hear when they are trying to focus on a particular task. At home, when a child is doing homework (or a chore), the TV should be off, or in a different room with the person watching using headphones so that there is no sound. The house should be as quiet as possible. The child should be seated away from windows, or the curtains should be drawn so that he or she is not distracted by movement on the street. It would be best if the wall in front of the desk or table where your child is doing his or her homework is not covered with brightly colored posters or artwork. Homework should be done in low-traffic areas of the house. Avoid the kitchen unless it will be out of bounds for "walk-through" traffic during homework time. These same principles apply to school. Your child should be seated in a low-traffic area of the classroom, facing away from windows and the wall where artwork is displayed, and ideally would be seated amongst quiet peers. Because it is not possible to eliminate all extraneous noise, some children find it very helpful to use ear defenders. These may be purchased from school supply companies, and are also often available at an inexpensive price from automotive parts stores. Many teachers will have a basket of these available for use by anyone in the class, thus normalizing their use among the peer group. Beyond about Grade Four, children tend not to want to use ear defenders at school. In that case, some children may

require a period of time each day when they can work in a quiet setting outside of the classroom (provided supervision is available to ensure they are on-task).

Provide various workstation options

Increasing proprioceptive or tactile sensory information often helps children with ADHD to focus. Movement and touch help to provide sensory information that compensates for that which is lost due to neurotransmitter deficiencies, yet often do not distract from the task at hand. So, while your child is doing school work or homework, it is helpful to use one or more of the following items: a chair that rocks, a wiggle stool, a standing desk, a yoga ball for a chair (provided it is in a base and won't roll away), any other desk modification that provides sensory feedback (for example, a "sit cushion"-a rubber cushion with bumps; a Theraband™ around the front chair legs, etc.); or a light table. Many classrooms use several of these strategies. For example, there may be a standing desk (or two) at the back of the class; three or four chairs that rock (one of which would be strategically allocated to a student with ADHD); and two or three wiggle stools – perhaps at a table where group work happens. There may also be a light table at the side of the class which can be used by any student, and a basket of focus tools at each table grouping. Setting up classrooms to meet the sensory needs of students is not only helpful to students who have ADHD, but to many other students as well. As a parent, you can speak to your child's teacher and school administrator to advocate for sensory-friendly classrooms.

Provide focus tools

Focus tools are things that a child can quietly manipulate with the hands (such as a stress ball, a small ball with hard bumps on the outside, a Tangle™, a pen with threads and a nut that can be rotated up and down, etc.). Many focus tools are available in school supply stores, or less expensive alternatives can often be found in dollar stores. It is important to teach children how to use focus tools appropriately. Focus tools often help a child to attend to instruction while their teacher is speaking, however they do not work for all children. Some children will impulsively throw the focus tools across the room or at their peers, in which case other strategies will have to be used. For example, when hand-held focus tools don't work, another option is to glue a small strip of Velcro inside the child's desk, which he or she can rub while listening to the teacher. When focus tools work, however, children are often able to "take in" far more information, thereby increasing their academic success. As noted above, it is not unusual for teachers to have a basket of focus tools at each table grouping in their classroom, thus normalizing their use. Focus tools can naturally also be used at home, while your child reads or does homework.

Provide movement breaks

Because movement helps children with ADHD to focus, taking movement breaks is also often helpful. These need only

be 5-10 minutes in length, but should include some type of physical activity. At home, this can be any easily-accessible physical activity such as walking, running, bike riding, playing basketball, skateboarding, etc. At school, this can be as simple as going for a walk down the hallway to get a drink of water. Some schools may have other options available such as the use of a trampoline, treadmill, or other weight room equipment (depending on the age of your child, and the school's budget). Some teachers will simply address an empty envelope to the principal or school secretary, and ask a child who needs a movement break to take the "message" to the office. Another school-based strategy is to have a child hand out textbooks or other school supplies as opportunities arise, thus providing him or her with a movement break without leaving the classroom. The frequency with which these breaks are necessary will be determined by the severity of your child's ADHD, and the number of other strategies being used to assist your child.

Choose appropriate chores

Active, "hands-on" chores will be easier for a child than more sedentary tasks (for example, it will be easier for a child to maintain their attention to task when shoveling the walk than when sewing on buttons). This principle applies at school too. Permitting students to demonstrate mastery of a concept in alternate ways – for example, by doing a presentation or building a model rather than writing a paper – will increase your child's experience of success in the classroom. As a parent, you can request that these sorts of accommodations are made for your child.

Provide support for writing activities

Many students with ADHD struggle to demonstrate their knowledge and mastery of concepts through writing. For younger children, whose writing skills are still developing, by the time they figure out how to write down their ideas, they have often become distracted and forgotten what they were going to say. Even older students in middle years or high school frequently write down only a fraction of what they know about a given topic. One traditional supportive strategy, is for an adult to scribe for a child with ADHD at least some of the time. In other words, when doing homework, your child would dictate his/her answer, and you would write it down – in their words. Traditionally, this would also be done by an educational assistant at school. This strategy does allow a child to more fully demonstrate his or her knowledge, and also cuts down on the time required to complete academic tasks – thereby reducing the child's frustration and increasing academic success. However, it does not build writing skills. More recently, the use of technology to compensate for writing difficulties is recommended. The use of an iPad or Tablet with speech-to-text technology can enable a student with ADHD to express their ideas verbally, and have them appear as print – which they can then edit for content, spelling, grammar, and punctuation, thereby developing their writing skills. There are also many apps which can be used with iPads or Tablets which support the writing process. For example, one app (called

SnapType™) allows a student to take a picture of a worksheet, touch the space where the answer would go, and then dictate his or her response to the question. Speak to your child's teacher or the school resource teacher to find out which apps would be appropriate for your child's grade and skill level. When iPads or Tablets are not available, but computers are, the use of word recognition software can help to compensate for spelling deficits, and the print will be much more legible than handwriting.

In situations where for financial reasons technological supports may not be available, additional supportive strategies which parents can request that schools provide are oral testing, and short-answer tests and assignments.

Provide extra time

Whether for chores at home or academic tasks at school, children with ADHD often require extra time to complete tasks. This is not because they are not capable of thinking or working quickly per se, but rather because their distractibility slows them down. Rather than having your child feel overwhelmed because he or she is falling behind in terms of task completion, either allow more time to do the task, or reduce the volume of work expected.

Assist with organization

Children with ADHD typically have significant difficulty with organization. Their binders, desks, and bedrooms tend to be messy and disorganized. They often lose things, or simply cannot find them when they are needed because items are rarely put in a predictable spot. At home, parents can assist with organization by helping clean and organize their child's room on a regular basis so that it does not become overwhelming and unworkable; helping their child gather all needed supplies before beginning homework tasks; teaching their child to use agenda books (when they are younger) or planners to keep track of when assignments are due, and when certain pieces of large assignments need to be started and completed in order for the project to be done on time. Often, binders with zippers help to prevent lost notes. Your child will likely need help sorting through the binder occasionally (i.e. to make sure that random loose pages of notes are put in the correct subject section of the binder). It may be helpful to request a copy of the teacher's notes, or to ask the teacher to make a copy of another student's notes prior to tests so that there is a complete, organized set of notes for your child to study.

Repeat, repeat, repeat

Children with ADHD often do not hear some or all of what is said to them (or to a group of which they are a part) if they are distracted, or thinking about something else. Check to make sure your child has heard and understood what was said, and repeat directions and explanations as necessary. It is helpful to ensure that you have eye contact with your child before speaking to him or her. This, of course, applies at school as well.

Structure social interaction

Children with ADHD often have difficulty during unstructured times. They may say or do things that their peers find annoying, without intending to. At home, until your child can manage more complex social situations, suggest that only one friend visits at a time. Steer your child toward more structured play (a game with rules and turn-taking); and provide supervision. If your child makes a mistake socially, you can correct him or her and state what a more appropriate behavior would be in that situation.

Strengthen self-esteem

Children with ADHD often receive more negative feedback than positive, so watch for opportunities to catch your child "doing it right," and provide praise and specific feedback. What exactly is your child doing well? Specific praise such as "It was very thoughtful of you to help grandma carry in her groceries" will be far more meaningful (and instructive) than "Great job this afternoon". Again, (the same applies to school. "I appreciate how well you watched and listened while I was explaining the lesson" will be far more meaningful than "Good job in class today". It is important to praise effort as well as accomplishments. Finally, help your child to discover and develop his or her strengths and talents. What is your child good at? In the real world, there are all sorts of jobs that do not involve sitting at a desk for six hours a day. The sedentary nature of school may always be a challenge, but that doesn't mean your child cannot be successful in life.

Academic Skill-Building

Naturally, with the above environmental modifications in place, your child is much more likely to experience greater academic success. That said, the fact remains that when children spend a significant amount of time off-task and distracted during the school day, their academic skill development can be slower than that of their peers. Eventually, there can be a gap between where your child's academic skills "should" be given their grade level, and where they actually are. This can make grade-level work even more challenging and frustrating for your child. Often, schools can offer the assistance of a resource teacher or educational assistant to work on specific academic skills. Parents can also assist in the early years by providing practice with certain skills at home (for example, daily reading). However, as children move through the grades, extra tutoring can often be helpful.

Social Skills Training

The social skills of children with ADHD often lag behind those of their peers (though, of course, this is not universally true). If this is the case with your child, structure social interaction (as noted above), and provide in-the-moment coaching around social skills. Also, ask your child's school guidance counsellor to provide formal social skills training to your child. There are many structured social skills training programs available for guidance counsellors to use with

children. Often this is done in small groups. Sometimes if recess is too unstructured for your child to be successful, a reverse integration recess plan can be put in place. Simply put, your child would be given the opportunity to choose one friend, and the two children would stay in for recess and play a game under the supervision of an adult, who would provide coaching to both children (as needed) regarding social skills. When your child can successfully manage interacting socially with one child, a second child would be added, and then a third, etc. until your child has learned to successfully interact socially in a group setting.

For more general parenting strategies, the reader is referred to the ParentASSIST app, which is available through Google Play and the Apple Store. The ParentASSIST app was designed to give parents efficient access to information to help them support their children's personal and academic growth, and

meet their emotional needs in a quick, easy-to-read format. See www.parentassist.info for information about the app, and links to it on Google Play and the Apple Store.

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