

## Behavioral Management in Child with Attention Deficit Hyperactive Disorder- Review

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### Abstract

Attention deficit hyperactive disorder is the most common psychiatric disorder seen in children in which the child expresses inattentiveness, hyperactivity as the core behaviour characteristics. Managing the child diagnosed with ADHD is quiet challenging in whatever the situation he is presented to. Behavioural techniques for managing the child with ADHD are not intuitive for most parents and teachers. It is futile and damaging to try to force a child with ADHD to be like most children. It is possible, however, to limit destructive behaviour and to instil in the child a sense of self-worth that will help overcome negativity. This review article encompasses various techniques of managing child with ADHD under different practical scenarios and guides parents, teachers and also clinicians to accommodate and modify the behaviour of child.

### Introduction

Attention deficit hyperactive disorder is the most common neurobehavioral disorder of childhood which affects about 4-12% of all school age children, and is also among the most prevalent chronic psychological condition affecting school aged children [1,2]. Hyperactivity, inattentiveness and impulsivity are the core behavioral characteristics of this disorder and is evident by age of 7 years and should have a minimum duration of 6 months to be diagnosed it as a disease. Based on the symptom presentation attention deficit hyperactive disorder is classified into three subtypes:

#### Predominantly hyperactive-impulsive type

Behaviour marked by hyperactivity and impulsivity, but not inattentiveness. Behaviour is characterized by following symptoms;

- Often fails to pay close attention to details or make careless mistakes in schoolwork
- Often does not seem to listen when spoken directly
- Often has difficulty in organising tasks that require sustained mental effort
- Often loses things necessary for tasks and activities
- Often is easily distracted by external stimuli
- Often is forgetful in daily activities.

#### Predominantly inattentive type

Behaviour marked by inattentiveness, but not hyperactivity and impulsivity behaviour is characterised by following symptoms

- Often fidgets with hands or feet, or squirms in seat
- Often runs about or climbs excessively inappropriate situations.
- Often has difficulty playing or engaging in leisure activities quietly
- Often talks excessively, blurts out answers even before the questions are asked
- Often interrupts in calm class
- Has difficulty in awaiting for his turn
- Often intrudes on others

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## Combination type

A combination of hyperactivity/impulsivity and inattentive symptoms. This is the most common type of ADHD. In order to make a valid diagnosis these symptoms must be present for at least 6 months before age of 7 yrs to a degree that is inconsistent with the developmental level of child, and cause impairments in at least 2 different settings.

Thus there must be clear evidence of clinically significant impairment in social, academic or occupational functioning.

Peer rejection and disruptive behaviours which can lead to academic and social difficulties are most valid problems of the disorder. Other long term consequences include higher rates of accidents as well as alcohol and drug abuse, and criminal behaviours when Attention Deficit Hyperactive Disorder is accompanied by conduct problems [2,3].

Behavioural techniques for managing the child with ADHD are not intuitive for most parents and teachers. To learn them, caregivers may need help from qualified mental health care professionals or from ADHD support groups. At first, the idea of changing the behaviour of a highly energetic, obstinate child is daunting. It is possible, however, to limit destructive behaviour and to instil in the child a sense of self-worth that will help overcome negativity.

## Behavioural techniques at home

Bringing up a child with ADHD, like bringing up any child, is a process.

No single point is ever reached where the parent can sit back and say, "That's it. My child is now OK, and I don't have to do anything more." The child's self esteem will evolve with an increasing ability to step back and consider the consequences of an action and then to control that action before taking it. But this does not happen overnight. A growing child with ADHD is different from other children in very specific ways, presenting challenges at every age [4-6].

## Setting priorities for the parent

Parents must first establish their own levels of tolerance. Some parents are easygoing and can accept a wide range of behaviors, while others cannot.

To help a child achieve self-discipline requires empathy, patience, affection, energy, and toughness. Some tips to help parents include:

- Parents should prepare a list giving priority to those behaviors they think are the most negative, such as fighting with other children or refusing to get up in the morning. The least negative behaviors on the bottom of the list should be ignored temporarily or even permanently (refusing to wear anything but red T-shirts).
- Certain odd behaviors that are not hurtful to the child or to others may be an indication of creative or humorous attempts to adapt (making up silly songs or drawing violent pictures). These should be accepted as part of the child's unique and positive development, even if they seem peculiar to the parent.

- It is important to keep in mind that no one is a saint. Loving parents who occasionally lose their tempers will not damage their children forever. In fact, non-abusive open disapproval or dismay is far less destructive to both parent and child than harboring resentment beneath a false calm.

## Establishing Consistent Rules for the Child

Parents must be as consistent as possible in their approach to the child, which should reward good behavior and discourage destructive behavior. Rules should be well-defined but flexible enough to incorporate harmless idiosyncrasies. It is very important to understand that children with ADHD have much more difficulty adapting to change than do children without the condition. (For example, the child should do homework every day but might choose to start it after a TV show or computer game). Parents should establish a predictable routine, and provide a neat, stable home environment (particularly in the child's room).

## Managing aggression

Some useful tips for managing aggression include:

- Parents should try to give little attention to mildly disruptive behaviors that allow this energetic child to let off some harmless steam. The parent will also be wasting energy that will be needed when the negative behavior becomes destructive, abusive, or intentional.
- The use of "time-out", isolating the child immediately for a short period of time, is an effective measure for allowing both the caregiver and the child to cool down. The child should immediately (and without emotion) be removed from a situation in which they are endangered or endangering others. The child should view time out as a way of cooling off and getting a distance on their behavior, not as isolation from others.
- To channel physical aggression and impulsivity in a toddler with ADHD, the parents must teach them to use verbal responses (A parent may need to allow verbal responses that would be unacceptable in another child).
- When the child becomes older and if the verbal responses become intentionally abusive and socially undesirable, the parent must redirect this form of aggression into more acceptable activities, such as competitive one-on-one sports, energetic music, video games, or big colorful paintings. Competitive video games, such as sports games, may also be an option.
- Sometimes a parent can anticipate situations when a child with ADHD is likely to misbehave, but all too often the child explodes for no apparent reason. If the blow-up occurs in public, the parents should complete their activities and leave as quickly as possible.

## Establishing a reward system

Children with ADHD respond particularly well to reward systems. One study reported that they performed equally well when encouraged either by a direct reward for a correct response or with the use of a system called response-cost. With this system, the child is given the reward first and allowed to keep it if their behavior remains appropriate.

Some suggested tips for rewarding the ADHD child are: [7,8]

- Create charts with points or stars for good behavior or for completed tasks. It is important to give points for even simple positive behaviors, which may be taken for granted in other children (responding happily to a change in plans, changing an obscenity to a more acceptable expletive).
- Rewards for any child can include playing a favourite game, extending bedtime by an hour, or allowing an extra half-hour of TV.
- Rewards of food or gifts should be used infrequently, if at all. They can create other problems, such as being overweight, having a bad diet, or making continuous demands for objects.
- A reward system should rotate different types of rewards, because such children are easily bored.
- Children with ADHD respond better with small rewards promised in the short-term than large rewards offered in the future. One approach that uses both short- and long-term rewards is a system that gives the child points for specific positive behaviors. As the children accumulate points, they can use them for larger tangible rewards, such as a favourite video game or CD.
- Rewards should be promised only when caregivers are fairly certain they can follow through. Children with ADHD respond with much greater frustration than children without ADHD to disappointment, and are likely to have a strong (and noisy) negative reaction. A parent must remember that this response is part of the child's make-up and not necessarily in their control.

### Improving concentration and attention

Children with ADHD perform significantly better when their interest is engaged. Parents should be on the lookout for activities that hold the child's concentration. Options include swimming, tennis, and other sports that focus attention and limit peripheral stimuli. (Children with ADHD may have difficulty with team sports require constant alertness, such as football or basketball.)

Martial arts, such as Tae Kwon Do, can also offer an appropriate and controlled emotional outlet, and help to focus attention, and teach self-restraint, self-discipline, and tolerance. Learning an instrument can help a child to develop a more rhythmic and balanced sense of self [9].

### Management at School

Even if a parent is successful in managing the child at home, difficulties often arise at school. The ultimate goal for any educational process should be the happy and healthy social integration of children with ADHD with their peers [10-12].

### Preparing the teacher

Although teachers can expect at least one student in every classroom to have ADHD, there is generally little training that prepares them for managing these children. The teacher should be prepared for certain behaviors in the child with ADHD:

- Students with ADHD are often demanding, talkative, and highly visible.

- Inattention is a major factor in low academic performance and can cause children to frequently forget homework or miss assignments. Children with ADHD often require frequent reminders or visual cues (such as posters) for rules and regulations. Having the child sit in the front of the classroom may be helpful for both increasing attention and reducing noisy activity.
- Lack of fine motor control makes taking notes very difficult, and handwriting is often poor. Using a computer can compensate for this.
- Rote memorization and math computation, which require following a set of ordered steps, are often difficult. (Children with ADHD may do better with math *concepts*.)
- Many children with ADHD respond well to school tasks that are rapid, intense, novel, or of short duration (such as spelling bees or competitive educational games), but they almost always have problems with long-term projects where there is no direct supervision.

### The role of the parent in the school setting

The parent can help the child by talking to the teacher before the school year starts about their child's situation. The first priority for the parent is to develop a positive, not adversarial, relationship with the child's teacher. Finding a tutor to help after school may also be helpful

### Special Education Programs

The Individuals with Disabilities Education Act (IDEA) requires the school to identify and evaluate children who may need help and to provide special services. However, parents sometimes report pressure by the school to put their children on medication or force them into special classrooms without clear educational justification. The schools in these cases, may be acting illegally.

High-quality special education can be extremely helpful in improving learning and developing a child's sense of self worth. However, programs vary widely in their ability to provide quality education. Parents must be aware of certain limitations and problems with special education:

- Special education programs within the normal school setting often increase the child's feelings of social alienation.
- If the educational strategy focuses only on abnormal behavior, it will fail to take advantage of the creative, competitive, and dynamic energy that often accompanies ADHD behavior.
- There is no federally funded special education category specifically targeted to ADHD.

The best approach may be to treat the syndrome as a variant of the norm and train teachers to manage these children within the context of a normal classroom.

Special programs are also required under the Rehabilitation Act and by the Americans with Disabilities Act (ADA) for students at institutions of higher learning. It is the student's responsibility, however, to inform the administration at their college or university that they need such services [13,14].

## Other Treatments

### Drug therapy

The drugs under review were primarily amphetamines (Adderall and other brands) and methylphenidate (Ritalin, Concerta, and other brands). These agents are closely related members of the class of sympathomimetic amines, the structures of several of which are shown in the Molecular Structures of Sympathomimetic Amines. These compounds exert potent stimulant effects on the cardiovascular and central nervous systems [13].

### Dietary Approaches

A number of diets have been suggested for people with ADHD. Several well-conducted studies have failed to support dietary effects of sugar and food additives on behavior, except possibly in a very small percentage of children. Still, various studies have reported behavioral improvement with diets that restrict possible allergens in the diet. Parents may want to discuss with their doctor implementing an elimination diet of certain foods that would not be harmful and that might help [13,15].

Additives and foods that parents and studies report as possible triggers of behavioral changes include:

- Any artificial colorings (particularly yellow, red, or green)
- Other chemical additives -- for example, BHT or BHA
- Milk
- Chocolate
- Eggs
- Wheat
- Foods containing salicylates, including all berries, chili powder, apples and cider, cloves, grapes, oranges, peaches, peppers (bell & chili), plums, prunes, tomatoes

### Feingold diet

The most well-known diet for ADHD is the Feingold diet, a salicylate- and additive-free diet, which requires rigorous vigilance over a child's eating habits. This diet also prohibits aspirin, which contains salicylates. Some parents report success with this diet, although it may be difficult to impose. It is certainly wise, in any case, to avoid food with artificial colors and flavors and to provide a healthy balance of fresh, natural foods.

### Essential fatty acids

Omega-3 fatty acids, found in fatty fish and certain vegetable oils, are important for normal brain function and may have some benefits for people with ADHD. It is not clear if supplements of fatty acid compounds, such as docosahexaenoic acid (DHA) and eicosapentanoic acid (EPA), provide any advantages.

### Zinc

Zinc is important for the metabolism of certain neurotransmitters that play a role in ADHD, and deficiencies may be associated with some cases of ADHD. Long-term use of zinc, however, can cause anemia and other side effects in people without deficiencies and it has no effect on ADHD in these

patients. In any case, testing for trace minerals, such as zinc, is not standard procedure when evaluating children suspected to have ADHD.

### Sugar

Although parents often blame sugar for causing children to become impulsive or hyperactive, a number of studies strongly indicate that sugar plays no role in hyperactivity.

### Feedback Approaches

Techniques that use biologic or auditory feedback may be effective tools for improving children's attention [16].

### Other Non-Drug Therapies

A number of alternative approaches are tried by children and adults with mild ADHD symptoms. For example, daily massage therapy may help some people with ADHD feel happier, fidget less, be less hyperactive, and focus on tasks. Other alternative approaches that may be helpful include relaxation training, meditation, and music therapy. Based on existing evidence, these treatments may be helpful for symptom management but are not proven to benefit the underlying disorder [17,20].

### Herbs and supplements

A number of parents resort to alternative remedies as an alternative to psychostimulants and other drugs. These products include St. Johns wort, ginkgo biloba, panax ginseng, melatonin, and pine bark extract. Based on existing evidence, however, none can be recommended, particularly for children.

Generally, manufacturers of herbal remedies and dietary supplements do not need FDA approval to sell their products. Just like a drug, herbs and supplements can affect the body's chemistry, and therefore have the potential to produce side effects that may be harmful. There have been a number of reported cases of serious and even lethal side effects from herbal products. Always check with your doctor before using any herbal remedies or dietary supplements. Neurofeed back-An alternative treatment for ADHD

### Neurofeedback

EEG biofeedback was developed as an additional or alternative treatment option for children, proceeding from a perspective that ADHD is a neurologically based disorder limiting capacity for attention and behavioural control. Neurofeedback treatments within child and adolescent psychiatry began about 30 years ago. Two training protocols-theta/beta training and training of Slow Cortical Potentials (SCPs)-are typically used in children with ADHD. In the resting EEG (relaxed awake state, usually with eyes closed), increased slow wave activity (theta, 4-8 Hz) and/or reduced alpha (8-13 Hz) and beta (13-30 Hz) activity, especially in central and frontal regions, might be associated with ADHD. This indicates cortical under arousal, particularly in mixed subtypes. Thus, it seems plausible that in a paradigm often applied in ADHD, the goal is to decrease activity in the theta band and to increase activity in the beta band (or to decrease theta/beta ratio) at the vertex (electrode Cz), i.e., activating and maintaining a state of cortical arousal ("tonic activation") [21,22].

## Conclusion

This review article concludes that behaviour management techniques for children with ADHD are quite different from other healthy children. Apart from behaviour modifications certain nondrug therapies like zinc supplements, dietary modifications also play a vital role in modifying behaviour of child with ADHD.

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