

ATTENTION DEFICIT DISORDER/ ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADD/ADHD)



ARTICLE

Attention Deficit Disorder/ Attention Deficit Hyperactivity Disorder (ADD/ADHD) is a term that has become well known in recent years. There have been many scientific articles and books written to advise professionals and families about this condition and the various methods of treatment. There have also been a wealth of magazine articles and television reports dealing with this issue, sometimes in a less than balanced way.

Discussion about ADD/ADHD raises many questions about causes, diagnosis, intervention and treatment methods. Within the field of child health and education worldwide, the answers to these questions are still being discussed, researched and developed. Many parents, teachers, childcare workers and child health professionals have strong feelings and indeed judgments about the causes, diagnosis and appropriate treatments for ADD/ADHD.

THE HISTORY OF ADD/ADHD

Over the years, the names given to difficulties with behaviour and attention have changed many times. The theories about the causes of this condition have also varied.

- At the beginning of this century, children with '*defects in moral control*' were thought to have inherited this condition or to have acquired it as a result of head injury.
- Around the time of World War I, an increase in memory problems, irritability, and hyperactivity was noticed in children who had previously contracted encephalitis. A connection was thought to exist between behavioural problems and biological factors.
- In the 1920's and 1930's there was a lot of research into the relationship between head injuries and behaviour problems. Medication was first used to control hyperactivity.
- Researchers in the 1940's looked at the connection between brain injuries and hyperactivity and distractibility, coining the terms '*minimal brain dysfunction*' and '*minimal brain damage*'.
- In 1961 Ritalin, a stimulant medication, was first used as a treatment for hyperactivity.
- In 1968 the American Psychiatric Association officially named and recognized the condition *Hyperkinetic Reaction of Childhood*.
- In the 1970's research focused on the link between behaviour and attention.
- In the 1980's the American Psychiatric Association used the official term *Attention Deficit Disorder* in it's Diagnostic and Statistical Manual of Mental Disorders; the DSM III.
- In the 1990's there was a proliferation of publications and articles about ADD/ADHD.
- In 1992 it was shown that there was some genetic factor at work in ADHD as 20-30 per cent of siblings of children diagnosed with ADHD also had the condition, with even higher rates for twins, especially identical twins.
- In 1994 the term *Attention Deficit Hyperactivity Disorder* replaced ADD in DSM IV.
- At the same time, Kagan's temperament theories emphasised the child's individuality. Family dynamics, especially the idea of 'goodness of fit' between the temperaments of child and parent were examined.
- The impact of the social context of the family, i.e. employment, social and cultural beliefs, and social supports, has recently been examined in relation to childhood behaviour and attentional difficulties.
- In 1995 Goldstein published research indicating a link between environmental factors (poor nutrition, lead poisoning, iron deficiency anaemia, and food sensitivities) and ADD/ADHD. Five per cent of children who are extremely hyperactive have a personal or family history of significant allergies.
- In 1997, Barkley published his theory of ADD/ADHD that poor behavioural inhibition affected the frontal lobes of the brain affecting memory, motivation, arousal, and self control. The biological view is that this is because of immaturity or mild dysfunction of the chemistry of the brain.

- ⦿ Recent studies of gender differences show that three to six times as many boys as girls have ADD. Research shows that girl's behaviour tends to fit the ADD pattern, and boys the ADHD pattern. There may be real gender differences, or boys may be recognised more readily because they show more hyperactivity and are more disruptive. This raises the possibility that there may be an unidentified population of children, particularly girls, struggling with attention deficits.
- ⦿ At the moment it is widely accepted that genetics, brain chemistry, and environment play their part, and that a combination of factors are responsible for the development of attention deficits and hyperactivity problems.

DIAGNOSIS

It may be useful to keep in mind that unlike other diagnoses such as Down Syndrome or Cerebral Palsy, a child with diagnosed attention deficits may not necessarily always have them. Up to two thirds of children diagnosed with ADD/ADHD may show no sign of the condition one year later, according to Hart et al, (1995)¹. Hyperactive symptoms tend to decrease with age, and inattentive behaviours can also improve in adulthood. ***In other words, the label is not a prognosis.*** Neither is the label ADD or ADHD explanatory in that it does not explain **why** the child is behaving in this way or showing these symptoms. ADD/ADHD merely describes a group of characteristic behaviours.

Diagnosis is clinically rather than physiologically based. There is ***no physical test that can confirm a diagnosis.*** The clinical symptoms of ADD/ADHD can vary according to the environment in which a child is observed. ***Attention levels may be normal for very motivating situations such as a video game or TV programme!***

The criteria that are used for a diagnosis in Western Australia (WA) are described in ***DSM-IV***. To receive a diagnosis of ADD/ADHD these symptoms must start before the age of seven years and continue for a minimum of six months. The symptoms must be observed in at least two situations e.g. in the home environment and the childcare environment. The symptoms must result in significant reduction of the child's academic and social functioning. Symptoms are grouped into three areas: inattention, hyperactivity, and impulsivity.

1. Inattention

The child must display six or more of the following symptoms of:

- ⦿ Often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities.
- ⦿ Often has difficulty sustaining attention in tasks or play activities.
- ⦿ Often does not seem to listen when spoken to directly.
- ⦿ Often does not follow through on instructions and fails to finish tasks, chores or duties (not due to oppositional behaviour or failure to understand instructions).
- ⦿ Often has difficulty organising tasks and instructions.
- ⦿ Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.
- ⦿ Often loses things necessary for tasks or activities (e.g. books, toys, school assignments, pencils, tools).
- ⦿ Is often easily distracted by external stimuli.
- ⦿ Is often forgetful in daily activities.

2. Hyperactivity

These symptoms must have persisted for at least six months and to a point that is maladaptive and developmentally inappropriate:-

- ⦿ Often fidgets with hands or feet or squirms in seat.
- ⦿ Often leaves seat in classroom or in other seated situations in which remaining on seat is expected.
- ⦿ Often runs about or climbs excessively in situations in which this is inappropriate. In adults or adolescents this may be limited to subjective feelings of restlessness.
- ⦿ Often has difficulty playing or engaging in leisure activities quietly.
- ⦿ Is often 'on the go' or often acts as if 'driven by a motor'.
- ⦿ Often talks excessively.

¹. Hart, et al (1995) in Porter, L. Selected Perspectives on ADD and ADHD. Australian Journal of Early Childhood, Volume 22, No 4, Dec 1997, p9.

3. Impulsivity

- ⊙ Often blurts out answers before questions have been completed.
- ⊙ Often has difficulty awaiting turn.
- ⊙ Often interrupts or intrudes on others (e.g. butts into conversation or games).

A diagnosis of **Attention Deficit Disorder** is made when individuals meet the criteria in Section 1 (Inattention). They will have a diagnosis of **Attention Deficit Hyperactivity Disorder** when criteria in the other sections are also met. Some children may have hyperactive-impulsive symptoms alone.

In the physical examination of children with suspected ADD/ADHD, many will show 'soft neurological signs'. These are signs of developmental immaturity such as being unable to stand on one foot without falling, difficulty in distinguishing right from left hand, or moving the fingers of one hand whilst keeping the others still.

It is imperative that other disorders and conditions are identified or eliminated before a final diagnosis can be made. It is possible that a condition of ADD/ADHD coexists with one or more of these conditions:

- ⊙ hearing impairment
- ⊙ language disorder
- ⊙ intellectual disability
- ⊙ autism
- ⊙ specific learning disability
- ⊙ brain injury
- ⊙ epilepsy
- ⊙ childhood depression
- ⊙ family dysfunction
- ⊙ the normal active preschooler!
- ⊙ psychosis

In all cases it is not sufficient for a parent and the family doctor to reach a 'diagnosis' alone. Genuine diagnosis requires a multidisciplinary approach, with the input of paediatrician, educational and clinical psychologists, and possibly social worker and psychiatrist.

To reach a diagnosis it is also necessary for detailed objective observations to be taken by teachers and/or caregivers, and by parents. Effective rating scales should be used in the home and the school/childcare environment to help caregivers and parents check behaviour across two situations. The checklist most often used in WA is the Connor's Checklist.

Although the majority of professionals believe that it is undesirable and often inaccurate to label children as ADD/ADHD when too young, it is nevertheless valuable to get a prompt diagnosis, as it is the first step towards treatment. It is known that other difficulties will often develop for a child who struggles with unrecognised and untreated ADD/ADHD. These can be:

- ⊙ reduced self esteem and confidence
- ⊙ failure to develop social skills
- ⊙ learning and communication deficits
- ⊙ poor academic performance sometimes leading to clinical depression
- ⊙ vulnerability to substance abuse and delinquency in later years.

In the Report of the Technical Working Party on ADD/ADHD to the Cabinet Sub Committee of 1996 it was emphasised that this multi-disciplinary approach to diagnosis should be used in WA. It was noted that the measures outlined above are not often taken rigorously enough. In the same report, a comparison of WA with other states showed that WA has a disproportionately higher use of stimulant medication, and this may show either that there is misdiagnosing or overprescribing in WA **OR** that the other states are lagging behind in recognising and medicating children with ADD/ADHD.

In conclusion, it can be seen that an accurate diagnosis of ADD/ADHD is complex. The behaviours in the diagnostic criteria are typical of all young children in less extreme forms, and there is also the possibility that other conditions requiring intervention are present. A proper diagnosis entails objective written observations of the child's behaviour done by a variety of people across several situations, and examination and testing of the child carried out by competent professionals.

INTERVENTION AND TREATMENT

The different ways of looking at the condition we now know as ADD/ADHD imply different ways of designing intervention for children with this condition and their families. The main areas of treatment are now medication, behavioural management, and dietary management. Family intervention and counselling can be used when family stability is threatened or when the way a family functions is seen to be aggravating the child's condition of ADD/ADHD.

1. Medication

- The Arguments For and Against

The medications used most commonly to treat ADD/ADHD are methylphenidate (*Ritalin*), and dexamphetamine. They are powerful central nervous system stimulants, which act by promoting the release of chemical messengers in the brain concerned with consciousness and perception. They also affect the neurobiological bases concerned with appetite, blood pressure control and emotional experience. The effect of these drugs on children with hyperactivity is to settle restlessness, focus attention on activities and prevent them acting on impulse. Successful treatment with medication can mean the child returns to 'normal' and can interact socially and learn appropriately. This can be a welcome relief to parents, siblings, teachers and caregivers who have been under severe stress attempting to cope with a seemingly 'impossible' child.

Although most children who are diagnosed with ADD/ADHD show early signs of the condition between three and four years old, Ritalin is not recommended for children under the age of six as studies have indicated that there are more side effects and less benefits in this age group. Nevertheless many childcare workers will be familiar with the situation of a four or five year old on medication for ADD/ADHD or with a child of this age or younger who seems to show many of the behavioural characteristics of this condition.

Over the long term, stimulant medication is said to have little or no permanent effects, with benefits

disappearing very soon after medication is discontinued. Dexamphetamine remains in a child's system for about five hours, and methylphenidate for approximately three hours. Children with ADD tend to respond best to low doses of Ritalin, and those with ADD/ADHD to medium to high doses. Medication dose is calculated in relation to the child's weight.

Parents and caregivers are often concerned about the side effects of medication. Research has shown that 3.6 per cent of children in a large study done by Levy in 1993² experienced side effects which were severe enough to warrant medication to be stopped. Some side effects observed were insomnia, stomach aches, headaches, increased blood pressure and heart rate and appetite suppression causing temporary periods of slowed growth. Symptoms usually cease once medication is stopped. Vocal or motor tics can also develop, with one in twenty of affected children experiencing continued problems after medication ceases. Recent studies have shown that stimulant medication may reduce the child's responsiveness to rewards and increase responsiveness to punishments, therefore affecting the child's progress towards normal behaviour. Some parents and caregivers voice concerns about medicating a child for what they see as a behavioural problem.

The child taking stimulants needs to be monitored closely to adjust dosages and timing of medication to suit both the child's needs and those of the family. Long term use of medication also needs to be periodically monitored as the child grows and this needs the cooperation of parents and caregivers in providing written records.

Parents need to be fully informed of their responsibilities in handling their child's medication, likewise any other caregivers who may be required to administer doses to the child. The benefits and possible side effects of medication also need to be explained in detail. Parents and caregivers need to know that there is usually a period of adjustment whilst the dosage and treatment plan is fine-tuned. Their input is required for the paediatrician to finalise a medication regime and then to periodically and systematically monitor the effectiveness of this regime.

²Porter, L op.cit. p10

2. Behavioural Intervention

Behavioural intervention is required **in addition** to any medication regime so that the child can learn appropriate behaviours - ways of interacting with adults and peers, how to complete tasks and activities, how to play and follow routines.

This method of treating ADD/ADHD uses strategies that are effective in managing children with ADD/ADHD **and** in handling any child who may be 'difficult'. These strategies are appropriate for parents, teachers and caregivers whether a child has been diagnosed or not, medicated or not, and within any setting. Behaviour management strategies, are often suggested to caregivers by Inclusion Support Workers (SUPS Workers) as part of an overall plan for a child attending childcare. Ideally, any behaviour management plan requires the cooperation of the child's family to be fully effective. Where this is not possible, caregivers are encouraged to persevere with the plan in their service.

It may be useful to think of a child with diagnosed or suspected ADD/ADHD as having a 'big engine with poor brakes'. They are distractible, inattentive, and some may be 'dreamers', finding it hard to organise themselves and their possessions. They may have a poor short term memory for more than one instruction, which may be evident by blank looks and failure to carry out requests. They may be fidgety and excessively active, impulsive with seemingly no understanding of dangerous situations. They may be messy eaters and find it difficult to dress themselves. They can also seem to have little understanding of the feelings of others and be demanding, aggressive, and defiant with adults and other children.

The overall picture is of a child who is exceptionally difficult to get along with and to teach. Caregivers and parents may become so stressed that they become angry and negative themselves, and their own self esteem as capable caregivers is threatened. It should be emphasized that feelings of anger and insecurity are to be expected when dealing with children with ADD/ADHD. The good news is that behaviour management strategies are effective for child, parent, and caregiver as they give a clear structure for the child and a plan of action for adults to rely on during stressful times.

A behaviour management plan is hard work and the initial effect on the child may be an **increase in difficult behaviours**, which can also be demoralising. However, **persistence and**

consistency will eventually have positive consequences, both for the child and for caregivers.

Main Principles of Behaviour Management

- ⊙ **Reinforce/acknowledge** acceptable behaviour. (Star charts are effective from about four years of age).
- ⊙ **Guide** rather than push; deflect or redirect rather than confront.
- ⊙ **Get the child's attention** when asking her/him to do something; touch the child gently, get down on her/his level, give eye contact.
- ⊙ Give **clear simple instructions**; not too many words.
- ⊙ **Demonstrate** what is required.
- ⊙ **Break down large tasks** or activities into small manageable ones.
- ⊙ Provide **clear routines and structure** to the child (childcare environments have an advantage here).
- ⊙ **Prepare the child for changes** and transition times: warn children what is about to happen, provide a song or other activity to smooth the transition and prevent aimless waiting times.
- ⊙ **Set clear rules** that are fair and simple and keep to them with all the children in the family or childcare group. Provide pictures to illustrate these rules. Even very young children can help to make rules.
- ⊙ **Use sitting-out** as a positive way of defusing a situation. Let the child be responsible, e.g. use a stopwatch or egg-timer. Give no attention to child whatsoever during sitting-out time. Two minutes is usually sufficient.
- ⊙ **Remove or change** things which aggravate difficult behaviour; e.g. too much noise such as music or TV on while children are trying to play, too much light, too few duplicates of toys so that children fight, too many things happening in too small a space.
- ⊙ In childcare, **split large groups** of children so that groups are more manageable and quieter.
- ⊙ **Make activities novel**, different and interesting.
- ⊙ **Plan AHEAD** and save something special for difficult times.
- ⊙ **Listen** to the child. Make sure you have a special talking time with her/him each day.

When Things Get Out of Control

- ⊙ Separate any child who needs to be apart.
- ⊙ Give the child a drink or something to eat.

- ⊙ Distract if and when possible.
- ⊙ Know what soothes the child and use it e.g. music, a bath.
- ⊙ Know what soothes you and use it! Wait until you've calmed down before looking at the problem again.

Further Suggestions for Inclusion in Child Care

- ⊙ Provide a quiet cosy corner for children to retreat to when things get too much.
- ⊙ Teach relaxation skills to children and learn and use them yourself.
- ⊙ Model ways of coping with anger and frustration. Talk about feelings and ways of coping with them. Use puppets, appropriate pictures, felt board activities.
- ⊙ At mat time with large groups of children give a 'talking ball' or other object to indicate a child's turn to talk.
- ⊙ Similarly provide small mats or cushions to delineate personal space when children sit in a large group.
- ⊙ Make sure that your centre has a supportive team approach to behaviour management and acknowledges caregivers needs.

A Special Word About Social Skills and Self Esteem.

Children with attention deficits or hyperactivity often have difficulty with social skills, and the childcare environment provides an ideal teaching and learning opportunity. Such children need to be given strategies for joining groups at play - give them the words to use if necessary. Monitor the group closely so that you can act quickly to redirect behaviour or separate children if confrontation starts. Make sure you have very clear rules about not hurting others and the consequences for such behaviour. One effective strategy can be to team a child with ADD/ADHD with a child who is a little older and who has better social skills.

Self esteem can often be at a low ebb for the child who is trying to cope with ADD/ADHD. There are many ways that we can promote the development of a positive self image such as focusing on the child's strengths, having a supportive environment, showing that it is acceptable to make mistakes now and then,

and offering the child opportunities for special responsibility.

3. Diet and General Health Management in ADD/ADHD

It has been claimed that 50 per cent of children with behavioural problems would be helped by dietary changes. Children with ADD/ADHD can show cravings for sugary and carbohydrate foods and an extreme dislike of fresh fruits and vegetables. Sometimes particular foods that aggravate hyperactivity can be readily identified and avoided by parents and caregivers. Drinks containing caffeine, red cordial and coloured lollies, being typical offenders. For a thorough investigation of food sensitivities and allergic reactions, an elimination diet can be designed and monitored by a professional dietitian.

Children with ADD/ADHD can often appear to be unwell with dark rings under their eyes, a runny nose and heavy catarrhal discharge. They can be underweight and have adrenal imbalance. For ADD/ADHD and any other general health problems it is the parents prerogative to select and use dietary management, vitamins and alternative medicines as they see fit.

SUPPORT AVAILABLE TO ASSIST INCLUSION IN CHILD CARE SERVICES

When planning to include a child with ADD/ADHD in your service, contact your Regional SUPS Team for assistance and advice. They will help you determine the appropriate level of support required, eg. current information about ADD/ADHD, staff training and skill enhancement, and practical ideas and suggestions for inclusive planning and behaviour management.

They will also ensure that all the people involved including family, medical practitioner/paediatrician, therapists, and Government Departments/Agencies, liaise closely to enable the best possible outcome for the child in your service. If you are unsure which SUPS Team covers your service, contact RUCSN.

SUPPORT GROUPS, AGENCIES AND DEPARTMENTS

- ⊙ **Learning and Attentional Disorders Society** offers information, support and referral advice for parents and adults. It provides assessment and counselling by professionals and maintains resources and

up to date research material.

Telephone: **08 9346 7544**

Website: **www.ladswa.com.au**

- ◎ State Child Development Centre (SCDC)
Telephone: **08 9426 9444**
- ◎ **Princess Margaret Hospital**
(Developmental Paediatric Department)

Telephone: **08 9340 8886**

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