

For this assignment I have decided to look at the disorder known as ADHD (Attention Deficit-Hyperactivity Disorder), or its European description Hyperkinetic disorder. For the purposes of this assignment I will use the term ADHD. The reason I have chosen this particular subject is that there are many arguments surrounding the diagnosis, treatment and management of this potentially disabling developmental disorder. It is a disorder, which is enduring; affecting the physical, social, psychological and spiritual life of the individual, it also presents with acute episodes, which may also require nursing intervention.

I have worked with children and adults with ADHD and find it amazing that in some cases little is known by parents, carers and the individuals about the condition. Is this because resources are poor, or because opinion is divided on the condition itself? Munden & Arcelus (1999) comment that many parents become despondent, because their attempts to find either an explanation for ADHD or a way of rectifying it have been unsuccessful.

To begin a definition of ADHD will be given, this will be followed by an explanation of the diagnostic approach used in determining ADHD, showing differences in current thinking on the subject. As a future learning disability nurse, I aim to look at the link between ADHD and learning disabilities. The assignment will then look at the enduring problems associated with ADHD not only for the individual but carers also. Acute problems faced by individuals and carers will then be highlighted. It is hoped that the role of the nurse can be explained in the assessment, treatment and management of ADHD.

ADHD is not a newly recognised condition, in 1902 Frederic Still, described 'abnormal psychical conditions and the deficit of moral control' in children (Munden & Arcelus 1999). ADHD is one of the most common psychiatric disorders of children. Historically, since medical science first documented the disorder in 1902, a number of terms have been used to describe the disorder presenting with symptoms of ADHD. These include Minimal Brain Dysfunction or Damage (MBD), Hyperkinetic Reaction, and Hyperkinesis (Munden & Arcelus 1999). During the 1970s and 1980s intensive research and the development of diagnostic criteria made ADHD the most written about childhood condition, and as a result ADHD is now recognised as a disorder with an

underlying biological cause that can be successfully treated (American Psychiatric Association 1980).

ADHD is characterized by developmentally inappropriate degrees of inattention, impulsivity, and hyperactivity (American Psychiatric Association 1994). Prior to diagnosis, parents or teachers may complain that their child is not listening, not fitting in or not responding to discipline as other children do. The three main characteristics of ADHD illustrate how such a child might behave. Many experts consider impulsivity to be the hallmark of ADHD (Barkley 1998). This behaviour often pushes the limits of parents and teachers patience. Impulsivity is exemplified by the careless errors the child may make. A child with ADHD has difficulty sustaining attention; especially during monotonous tasks, they are also highly distractible. Typically, a child with ADHD is described as restless, in constant motion and fidgety. They may also talk excessively (Ingersoll and Goldstein 1993). Children with ADHD are typically impulsive, forgetful, restless, prone to failure, unpredictable and moody. These characteristics appear in early childhood and are chronic in nature. The persistence, pattern, and frequency of these behavioural characteristics sets children with ADHD apart from other children who may show these traits from time to time.

Although its aetiology is unknown, there is evidence that the frontal lobe of the brain may play a role in ADHD; other studies have shown diminished levels of dopamine in the brain in these children compared to controls, and norepinephrine is thought to be released in insufficient quantities. While most cases of ADHD are idiopathic, there is a genetic correlation (U.S Department of Health and human Services 1999). Studies by Biederman et al (1990) found about 25% of biological parents also have ADHD. In addition, pregnancy complications, exposure to prenatal toxins (including drugs and alcohol), brain trauma, and increased serum lead levels have been associated with a small number of ADHD cases (Barkley 1998). In very rare instances, particularly in very young children and in those with multiple allergies, hypersensitivity to certain food additives and dyes may cause adverse responses that include behavioural manifestations (Ingersoll and Goldstein 1993). However, allergic reactions to food additives, dyes, and preservatives, as well as refined sugar, do not seem to be a primary cause of ADHD (Barkley 1998).

Research has also linked stress, poor nutrition, central nervous infections, and drug addition (Mehl-Madrona 2001).

So how common is ADHD? Figures for the U.K, according to Professor Taylor suggest that about 1.7% of the British population has ADHD in its more severe form (Taylor et al 1991). Approximately 3-5% of children around the world have this disorder (Barkley 1998). About 50% have another psychiatric disorder with ADHD. In the past, it has been thought that ADHD was only present in boys. However, it is now known that girls may have it too.

The diagnosis of ADHD is very difficult as there is no concrete medical test, making the diagnosis very subjective. This brings about the first disputed topic surrounding ADHD. In the U.K. psychiatrists and other health professionals use the ICD-10 (International Classification of Diseases 10th ed) diagnostic criteria, while America and other parts of the world use the DSM-IV (Diagnostic Statistical Manual) criteria. Although similar, there are significant differences in the number of symptoms required and the way in which behaviours are described (Munden and Arcelus 1999) (see appendix 1). ICD-10 has been shown to select a smaller group of children than those selected using DSM-IV. By insisting that ICD-10 criteria are met before treating for ADHD, clinicians in the U.K. are depriving a group of children with significant impairment (who fulfil DSM-IV criteria) proper treatment and intervention (Munden and Arcelus 1999). It is thought that only one in ten children with ADHD in Britain has been identified and is receiving help. The undiagnosed children and their families are presumably experiencing unnecessary problems that are potentially treatable (Munden and Arcelus 1999).

As nurses we are expected to utilise evidence-based practice, therefore it would make sense that as professionals we make use of research, particularly well designed, multi-centre studies on ADHD. The majority of this research is carried out on patients who fulfil DSM-IV criteria, therefore to utilise this evidence we as health care professionals should apply it to the same clinical population (i.e. that selected by DSM-IV diagnostic criteria). At present this is clearly not the case.

Another area of contention in ADHD is the issue of which form of treatment to use. Treatment consists of four components; medication therapy, home behaviour management, school

interventions, and psychological services. No approach is effective in isolation; for maximum benefit, interventions need to be used together to treat the entire child and family unit. Many arguments can arise surrounding the treatment strategies for ADHD. These arguments occur when there is a conflict of interest on behalf of the child, Cooper and Ideus (1995) state that “Political concerns can interfere with the management of ADHD, where competition between the educational and the medical professions has tended to discourage the use of combined therapies, and may even lead to a refusal to contemplate the possibility that there may be even a limited role for some forms of treatment”. Schools will try to use educational interventions such as behavioural reinforcement strategies, where as the medical profession will sometimes advocate the use of drug interventions.

Drug based interventions are intended to ‘make the child available for learning’ (Benson 1987). Educationalists argue that medication is used as a cheap and cynical ‘chemical cosh’ to control troublesome students (Cooper 1999). Medications do not control behaviour or sedate the child, but act to normalize brain functioning, allowing the child to better control his own actions.

When monitored carefully and used responsibly, medication supports the other behavioural, school, and psychological interventions that may otherwise be ineffective (Barkley 1998). The most commonly used class of medications are the psychostimulants, with methylphenidate (Ritalin), dexamphetamine (Dexedrine), and amphetamine/dexamphetamine (Adderall) the most frequently prescribed. Stimulants help control behavioural symptoms in 75%-90% of those with ADHD. Methylphenidate and dexamphetamine are short acting and dosage is based on behavioural and attentional response. Neither of these medications is physiologically addicting, and there is no evidence that this treatment leads to drug dependence or addiction (Ingersoll and Goldstein 1993).

Positive effects include a significant improvement in control, focus, concentration, attending skills, and task completion; fewer temper outbursts, less anger, better compliance; and less restless behaviour, motor over activity, and impulsivity. The most common side effects are anorexia and insomnia, which may improve as the child adjusts to the medication. Other side effects include stomachaches, headaches, irritability, and weight loss. The most serious adverse effects are motor or vocal tics, and stimulants should be avoided in those with a history of tics (British Medical

Association 2001). Second-line medications used in ADHD when stimulants are ineffective or contraindicated include the tricyclic antidepressants (TCAs), imipramine (Tofranil) and desipramine (Norpramine). Fluoxetine (Prozac) and other selective serotonin reuptake inhibitors (SSRIs) are sometimes used when ADHD is complicated by childhood depression, obsessive-compulsive disorder, or anxiety.

Parents obviously have concerns about giving their child medications, especially at a young age. Given this the demand for alternative, non-drug treatments for children diagnosed with ADHD has increased (Coombes 2000). Nurses can be particularly helpful in parent and teacher education regarding the benefits, side effects, and myths of medication for ADHD, but they can also inform, teach and carryout techniques such as Parent training, counselling, and home behaviour management/intervention. A study carried out at Southampton University, evaluated a programme where health visitors/community nurses gave advice on communication, distraction techniques and ways of dealing with tantrums, to parents of children with ADHD. Results showed the potential of early intervention, with a reduction in the severity of the children's ADHD symptoms. Coombes (2000) comments that if this programme is developed into a national model, it may help prevent the U. K. from the oversubscribing of medication shown in the USA. The present government is in consultation with the relevant agencies on the best way to provide help to parents with this and other aspects of parenting (Straw and Anderson 1996).

It is not only parents who feel strongly about prescribing children medications. A report by the British Psychological Society states that among many U.S. children the only therapeutic response by doctors is to prescribe stimulants; "It is important to prevent this happening in Britain," the report declared (McConnell 1997). The flip side of this argument is that certain individuals, who do not respond to other forms of intervention, may be denied medications due to attitude held by those who hold the power of prescription.

Essential features of a home behaviour management program, drawn up by the nurse in consultation with parents, and if possible child, include providing a structured environment and routine; providing consistent, clear rules; providing a system of rewards and consequences; and

acknowledging good behaviour immediately and as frequently as possible. A structured environment may mean posting a schedule of activities the child may have to do at certain times of the day. Consistent and clear rules are essential to provide the child with an external reminder of expected behaviours. A system of rewards and consequences may include a token system or star chart for completing daily chores, with rewards being use of toys or the TV, or a special outing. Consequences for breaking rules may include withdrawal of certain privileges and the use of time outs (Kendall 2000). Praising the child is extremely important, as peers, teachers, and even strangers who do not understand their disability frequently criticize these children. By making a practice of noticing the good things the child does, the parent can help keep the child's self-esteem intact (Kendall 2000).

As a learning disability student nurse I have an interest in the effects ADHD can have on an individuals learning and issues surrounding the comorbidity of learning disabilities and ADHD. First I think it would be useful to define what a learning disability is; Hammill (1990) gives the following definition:

“Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous dysfunction, and may occur across the life span. Problems in self-regulatory behaviours, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions or with extrinsic influences (such as cultural differences, insufficient, or inappropriate instruction) they are not the result of those conditions or influences.”

Since inattention and hyperactivity are seen as barriers to the learning of an individual, Bender (1995) states that if a child is hyperactive and demonstrates attention problems, he or she is less likely to learn, it makes sense that ADHD must have a link with learning disabilities. Though inattention has always been included as one possible manifestation of a learning disability, some researchers have indicated that it might be the single most important defining characteristic (Ross 1976). Research on this area has shown a correlation between ADHD and Learning disabilities; McKinney et al (1993) estimate that perhaps 10% of children with ADHD also demonstrate a learning disability, whereas between 15 and 80% of children with learning disabilities also manifest

ADHD. Barkley (1998) suggests that as many as 26% of students with ADHD also have learning disabilities.

The following section of this assignment will show how ADHD affects the life of the individual at each stage of development; this will highlight the fact that this is an enduring condition. It is not uncommon for parents to see signs of ADHD before their child can walk. Children who go on to develop ADHD are often described as squirmier and less cuddly than other babies, and their behaviours are more difficult.

For many children the signs of ADHD materialise during the toddler stage (1-3 years). Hunt (1988) describes a child with ADHD as one who, cries a lot, is irritable, a poor sleeper, can not sustain play or exploration with one toy or object, destroys things, wears out clothes, toys and parents patience. Toddlers have a high activity level; children with ADHD at this stage are incredibly hyperactive. Their lives consist of climbing, destroying or messing up wherever they are. This can effect mealtimes and toileting. Just as the normal hyperactivity of toddlers is magnified in ADHD, normal impulsiveness is also. This means that the child must be supervised every minute of the day, in order to prevent accidents and injuries. Sleep problems lead to a more inattentive, irritable and hyperactive child, thus having a negative effect on the parents.

Children of a preschool age (3-5) are still relatively inattentive, but they are expected to perform some schoolwork, and be able to listen. When the child has ADHD, they are usually unable to consistently manage these tasks. The hyperactivity-impulsiveness part of ADHD gets them into a great deal of trouble at this stage. Fighting and accidents all increase during this phase of life, and the family can be seriously affected. Munden and Arcelus (1999) comment that families often describe serious marital problems, increased problems of sibling rivalry and feelings of blame and recriminations towards themselves. Parents can feel, ostracised by their family and friends due to their child's behaviour, incompetent in parenting skills and inadequate.

By primary/infant school, ADHD children frequently begin to exhibit learning disabilities. Hunt (1988) describes children having primary perceptual problems, evidenced by a tendency to reverse letters. Others have dyslexia, perhaps secondary to the impulsivity of their

visual scanning. Learning disabilities may also manifest from impairment in other aspects of cognition. Hunt (1988) comments that attentional disturbance can impair discrimination between relevant and distracting stimuli and disrupt processes of sustained vigilance or reflection.

By junior school ADHD children are usually enmeshed in conflict. Many children will drop out, skip classes, and get into trouble or be expelled. By this time children have often been diagnosed as having behavioural or learning disabilities (Hunt 1988). Many are now being treated with medication or through special educational environments.

During adolescence the hormonal changes that take place, sometimes appear to increase cortical control and diminish overt hyperactivity. However for many teenagers with ADHD the symptoms remain and are subject to increases in potential aggression and danger, when unmodified by appropriate intervention ADHD is evident in continued learning disabilities and emotional-behavioural disturbance (Hunt and Cohen 1984). Teens with ADHD present differing challenges; academic and organisational demands increase, these impulsive youngsters face typical adolescent issues such as peer pressure, self-discovery, sexuality, drugs and alcohol, and the issue of independence (CHADD 2001).

There is an increasing awareness that ADHD can extend from childhood, through adolescence and into adulthood. A study by Denckla et al (1976) demonstrated that between 31% and 66% of adults with a history of childhood ADHD continue with symptoms of the disorder. This means around 1-2% of adults fulfil the diagnostic criteria for ADHD. In fact current research reflects rates of roughly 2-4% among adults (CHADD 2001). In adulthood, roughly one third of individuals with ADHD lead fairly normal lives, while half still have symptoms that may interfere with their family relationships or job performance (Weiss et al 1985). These interferences could take the form of substance/alcohol abuse, risk taking, explosiveness, antisocial behaviours, inconsistent parenting, marital problems, law breaking, or occupational failure (Hunt 1988).

People who suffer from ADHD may also experience episodes that are of an acute nature, which may require nursing intervention. Acute problems/behaviours are usually the reaction to current stressors or coping difficulties (Wagner 2000). The incidence of acute depression among

ADHD children has been estimated to be 30-50% depending on the clinical population (Hunt 1988). Children with ADHD are more likely to receive lacerations requiring sutures, fractures, serious head traumas and be the victim of accidental poisonings (Barkley 1998). Severe ADHD is a horrible problem and can be life threatening; ADHD is six times more common in suicide victims than in the general population, and overtime children with ADHD appear to be at increased risk of developing alcoholism and substance abuse (Satterfield et al 1982).

The nurse may not yet be a fully utilised tool in the assessment, treatment and management of ADHD; but it cannot be denied that whether it is a practice, community, learning disability, psychiatric, school, or A&E nurse, they will play a role at some point in an individual's life who has ADHD. Some of these disciplines of nursing will perform specific interventions. A&E nurses will most likely deal with the acute problems caused by lacerations and fractures, whereas school nurses will supervise treatment plans and encourage compliance with medication regimes.

Depending on the referral, either a learning disability, psychiatric, or general community nurse has a major role to play in the care of an individual with ADHD. These roles include:

- To make referrals direct to therapists, social workers, psychiatrist, psychologists.
- To devise specialist care plans to provide complex, social, psychological, behavioural, and medical interventions, and monitor their efficacy.
- To run clinics/therapeutic groups (help alleviate social isolation, help carers know they're not alone).
- To recommend investigations, assessments, and health tests.
- To provide and facilitate health education.
- To provide advice, support and education to clients, carers, and staff to assist in meeting healthcare needs.
- Nurses can help parents by referring them to a national support groups, such as the ADHD Family Support Group.
- Make use of nursing models to improve every aspect of an individuals life (See appendix 2 for an example)

Working with children with ADHD and their families takes a great deal of patience, understanding, and encouragement. It also requires the nurse to be specially trained, or at least educated on the disorder; this will hopefully stop misdiagnosis and children becoming lost in the system. Many adults, who show symptoms of ADHD, were not diagnosed as children and now show marked incidences of depression, low self-esteem, and underachievement (Craig 1996). Without early recognition and intervention individuals can become labelled as 'challenging', sadly

this is the case for many of the people with whom I have worked. These people become so frustrated with their ADHD, magnified by their learning disability, that their behaviours become so extreme they require specialist intervention in either adult or children's challenging behaviour units. This can and often does lead to a life of institutionalisation and compounded problems.

Need this be the case? As Weeks and Laver-Bradbury (1997) point out "the vicious cycle of pre-school behaviour problems, school failure and adolescent and adult social malfunction needs to be tackled early", nurses are in prime position to help achieve this if given the skills and resources to do so. Early intervention by nurses/health visitors could see a reduction of people with ADHD coming into the healthcare system needing specialist care.

The nurse also has the opportunity to recognise previously undiagnosed individuals with ADHD (Craig 1996), and can then structure treatment for individuals, starting with education about the disorder, teaching people how to structure their lives in order to achieve set goals, and referring them to appropriate specialists.

There is much debate on the subject of ADHD; in order to bring to a close some of these debates, there needs to be a coming together of minds so that discrepancies in the diagnosis, treatment and management can be 'ironed out'. If a worldwide agreement on ADHD could be reached then perhaps the confusion experienced by affected individuals and their carers may be dispelled. There needs to be a great deal more research done into the role of the nurse in ADHD, this would hopefully highlight the important function nurses can play. At present there appears to be very little research in this area and so it is not surprising that the exact part a nurse can play is unclear. Once this role has been researched and evaluated, then training programs can be set up in order to bring the education and the skills of the nurse up to speed with the demands shown by those affected by ADHD.

Appendix 1

The Diagnostic Criteria For ADHD

ICD-10: Hyperkinetic Disorder	DSM-1V Attention Deficit Hyperactivity Disorder
<p>Inattention</p> <p><i>At least six of the following symptoms of inattention have persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:</i></p> <ol style="list-style-type: none"> (1) Often fails to give close attention to details or makes careless errors in school work, work, or other activities. (2) Often fails to sustain attention in tasks or play activities. (3) Often appears not to listen to what is being said to him or her. (4) Often fails to follow through on instructions or to finish school work, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions). (5) Is often impaired in organising tasks and activities. (6) Often avoids tasks, like housework that require sustained mental effort. (7) Often loses things necessary for certain tasks or activities. (8) Is often easily distracted by external stimuli. (9) Is often forgetful in the course of daily activities. <p>Hyperactivity</p> <p><i>At least three of the following symptoms of hyperactivity have persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:</i></p>	<p>A. Either (1) or (2):</p> <p style="padding-left: 40px;"><i>(1) Six or more of the following symptoms of inattention that have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</i></p> <p>Inattention</p> <ol style="list-style-type: none"> (a) Often fails to give close attention to details or makes careless mistakes in school work, work, or other activities. (b) Often has difficulty sustaining attention in tasks or play activities. (c) Often does not seem to listen when spoken to directly. (d) Often does not follow through on instructions and fails to finish school work, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions). (e) Often has difficulty organising tasks and activities (f) Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort. (g) Often loses things necessary for tasks or activities. (h) Is often easily distracted by extraneous stimuli. (i) Is often forgetful in daily activities. <p style="padding-left: 40px;"><i>(2) Six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</i></p> <p>Hyperactivity</p> <ol style="list-style-type: none"> (a) Often fidgets with hands or feet or squirms in seat. (b) Often leaves seat in classroom or in other situations in which remaining seated is expected. (c) Often runs about or climbs excessively in situations in which it is inappropriate (in

- (1) Often fidgets with hands or feet or squirms in seat.
- (2) Leaves seat in classroom or in other situations in which remaining seated is expected.
- (3) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, only feelings of restlessness may be present).
- (4) Is often unduly noisy in playing, or has difficulty in engaging quietly in leisure activities.
- (5) Exhibits a persistent pattern of excessive motor activity that is not substantially modified by social context or demands.

Impulsivity

At least one of the following symptoms of impulsivity has persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:

- (1) Often blurts out answers before the questions have been completed.
- (2) Often fails to wait in lines or await turns in games or group situations.
- (3) Often interrupts or intrudes on others (e.g. butts into conversations or games).
- (4) Often talks excessively without appropriate response to social restraints.

- adolescents or adults, may be limited to subjective feelings of restlessness).
- (d) Often has difficulty in playing or engaging in leisure activities quietly.
- (e) Is often 'on the go' or often acts 'as if driven by a motor'.
- (f) Often talks excessively.

Impulsivity

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

Appendix 2

Roper, Logan and Tierney's Model of Nursing: Activities of Daily Living. Case study for Joe Bloggs who is diagnosed with ADHD.

Activity of Living	Physical Factors	Psychological Factors	Sociocultural Factors	Environmental Factors	Political-Economic Factors
Maintaining a safe environment	Hyperactivity, Impulsiveness, tantrums			Furniture, roofs, knives and other kitchen utensils	Ability to afford safety equipment, replace dangerous furniture etc
Communicating	Often talks excessively, not coherently and interrupts	Part of the disorder, needs to be heard first before others	Causes problems due to rudeness of interruptions	Can be worse at home, or school.	
Breathing	Hyperactivity, can cause breathlessness				
Eating and drinking	Eating too quick, doesn't sit at the table for meals	Doesn't understand the importance of food and mealtimes	Meal times are social occasions	Can be distracted by family members, T.V. and friends.	
Eliminating	May forget to tell when toilet is needed	Maybe hard to toilet train due to poor concentration		May be affected by environment they are in i.e. school or home	
Personal cleansing and dressing	May not clean properly due to hyperactivity, restlessness. Accidents may occur in bathroom.	May become isolated due to poor hygiene.	Maybe teased due to poor hygiene, or cleanliness of clothes.	Lack of temperature regulators may lead to scolding in baths. Accidental use of dangerous chemicals to wash	
Controlling body temperature	May overheat due to hyperactivity. May not wear suitable clothing in the cold/hot				
Mobilising	Problems may arise if fractures occur	May cause frustration, more tantrums	May not be able to attend school etc.	Poor lay out of houses schools.	Cost of taxi's, transport etc.

Working and playing	Hyperactivity, impulsivity will affect work and play	Frustration at inability to complete work/play. Boredom with tasks.		Where work takes place, quiet rooms, additional help/tutoring	May not be able to hold down jobs, get qualifications
Expressing sexuality	May masturbate inappropriately.	May not understand boundary issues	May approach persons in an inappropriate manner due to impulsivity		
Sleeping	Lack of sleep	Frustration, aggression, affect on carers		Sleeping arrangements	
Dying	Suicide/Parasuicide	Does not understand dangers. Can't stop impulsive acts		Availability of dangerous objects	

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