

**A CASE STUDY OF SEVEN FAMILIES WHO HAVE TRIED ALTERNATIVE  
TREATMENT TO RITALIN FOR CHILDREN CLINICALLY DIAGNOSED  
WITH ADHD.**

**BY**

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A dissertation submitted to the faculty of Humanities University of Durban Westville in  
partial fulfillment of the requirements for the degree of

**MASTERS IN EDUCATION (EDUCATIONAL PSYCHOLOGY)**

**IN THE SCHOOL OF EDUCATIONAL STUDIES.**

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## **DEDICATION**

This study is dedicated to my late father, Mr Jimmy Naidoo, who instilled in me the virtues of honesty and integrity and the importance of a sound education.

## **ABSTRACT**

The purpose of this study is to assess the effectiveness of alternative treatment to Ritalin for children clinically diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

This research has focused on a case study of seven learners, their respective parents and teachers in the Durban Highway area.

All learners in this study have used both alternative treatment and Ritalin for the treatment of ADHD. The learners and their parents were interviewed at their homes and semi-structured questionnaires were administered to the respective educators.

The study revealed that majority of the parents preferred alternative treatment but resorted to Ritalin as it provided a quicker reaction to control the symptoms of hyperactivity, inattentiveness and impulsivity. The educators preferred the use of medication in the management of ADHD because Ritalin is seen as a quick solution to control a hyperactive learner in the classroom.

The implications of the findings of this study are important to parents, teachers, caregivers and professionals involved with the management of children clinically diagnosed with ADHD.

## **ACKNOWLEDGEMENTS**

I would like to extend particular appreciation to the following people who afforded me support in this study:

My Supervisor, Henry N. Muribwathoho, for his guidance, support and unlimited access to his expertise.

My sincere gratitude to the children, their parents and educators who participated in this study.

My sincere thanks to the principals and psychologists of the schools concerned for consenting to the study.

A special thank you to my husband and soulmate, for believing in me and for his unconditional caring, support and willingness to assist during this research.

My sincere gratitude to my mother for her unwavering love, support and inspiration throughout my life.

### **DECLARATION**

This dissertation represents the original work of the author and has not been submitted to this or any other University. Wherever use was made of the work of others, it has been duly acknowledged in the text.

07/01/2022

**DATE**

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# **CHAPTER ONE**

## **1.1 INTRODUCTION**

*We are members  
Of a vast cosmic orchestra  
In which each living  
Instrument  
Is essential to the  
Complementary and  
Harmonious playing of  
the  
whole.*

Boone (Bester 2000:9)  
“Kinship with all life”, from  
A Guide for the advanced Soul – A Book of Insight

We are all different – no two people are the same. Most of us fit more or less into the structures erected by society and are accepted. The hyperactive child does not fit in (Bester, 2000: 9)

Restlessness and busy behaviour is a phenomenon exhibited by children throughout the world. Twenty years ago this type of behaviour was known as hyperactivity but subsequent research indicate that difficulties emanate from poor self-control of behaviour and deficit of attention, which is known as Attention Deficit Hyperactivity Disorder (ADHD).

Attention Deficit Hyperactivity Disorder (ADHD) and Attention Deficit Disorder (ADD) are diagnostic labels that we give to children and adults that have significant problems in four main areas of their lives i.e. inattention, impulsivity, hyperactivity and boredom. This position has become controversial as many would like to dismiss the diagnosis altogether saying that there is no evidence of neurological differences or that there is no medical test to diagnose ADHD and ADD, or that diagnostic criteria is too broad.

Attention Deficit Hyperactivity Disorder (ADHD) is the most common child psychiatric disorder diagnosed during childhood and adolescence. It is better appreciated and understood as a childhood disorder. It can be described as a syndrome with a controlled list of behaviour problems measured by estimated age and criteria. The most widely used definition of ADHD is one that is firmly entrenched in the medical model. The cornerstone of the diagnoses, which is summarized in the DSM-IV are poor concentration, hyperactivity and impulsivity.

Increasing attention and concern has focused on the treatment of ADHD.

Methylphenidate (Ritalin) is usually used as the first line of treatment in children clinically diagnosed with ADHD. Ritalin has had widespread media coverage, which has been both positive and negative.

O'Connor and Garson, (cited in Hamid, 2003:71) say that the search for alternative forms of management has been spurred by the "fear" and "suspicion" associated with Ritalin and its long-term effects.

Although the backbone of the ADHD syndrome comprises abnormalities in the nervous system, the flesh of the disorder consists of psychological factors (Taylor, 1997:4).

## **1.2 STATEMENT OF THE PROBLEM**

The most common treatment for ADHD/ADD today is drug therapy combined with behaviour modification and educational services. According to Block (1996), studies indicate that pediatricians are more likely to prescribe mainly drugs without the other two treatments.

Ritalin, the most commonly prescribed drug for ADHD symptoms, is one of many other drugs currently used to treat ADHD.

“ I call Ritalin ‘paediatric cocaine’. The drug Ritalin or its generic equivalent, Methylphenidate HCL is very similar to cocaine. Both drugs use the same receptor site in the brain, give the same high and in medical research are used interchangeably”. (Block, 1996:30)

Like all drugs, Ritalin has side effects. The known short term side effects of Ritalin are loss of appetite, decreased growth, tics, visual disturbances, nervousness, insomnia, depression, social withdrawal, irritability, abdominal pain, increased heart rate and psychotic-like symptoms. These side effects are known from short-term use only. According to Block (1996) studies have shown that the drug helps the child focus better. If the drug does work for the child it will only be effective for as long as the drug lasts in the human system. The symptoms of ADHD should not be covered over by a drug but rather alternative treatment should be tried. Publications of alternative treatments are rare in scientific journals, but plentiful in popular press and on the Internet.

Many parents are concerned about the risk of giving their children powerful psychoactive medications, especially over an indeterminable, prolonged period of time. It is therefore a good reason to try alternative treatment for ADHD.

This study explores the different alternative treatments that have been used by eight families as apposed to Ritalin for ADHD.

### **1.3 RATIONALE**

During my final year at the University of Durban Westville, Attention deficit Hyperactivity Disorder (ADHD) was part of the subject matter of the Principles of Remedial Education class. I had no prior knowledge of ADHD hence my interest in attention disorders kindled.

Personally for me this opened a whole new spectrum of possible explanations for badly behaved children. I was further exposed to ADHD during my practice teaching at a school where some educators had intimated that a few of their respective learners were diagnosed with ADHD. These learners were being treated with Ritalin and the educators were administering the treatment at school. This situation rekindled my interest in the subject matter.

I found it quite disturbing that so many learners were reliant on medication at such a young age especially since the side effects of Ritalin were discussed at great lengths during my lectures at university. This then made me curious about whether alternative treatment/therapy was available and whether when applied effectively were successful. During my first year of teaching in Gauteng the same phenomenon of administering Ritalin was apparent. My interest intensified.

I therefore embarked on a literature search to assist fellow colleagues and myself to gain more information on Attention Deficit Hyperactivity Disorder, Attention Deficit Disorder (ADD) and alternative treatment/therapy to Ritalin.

In conversation with many parents of ADHD learners, I ascertained that many parents resorted to Ritalin even though dissatisfied with the medication and its side effects. Very few parents were aware of alternative treatment/therapy to Ritalin and those that were exposed to alternative treatment were not aware of the success rate due to the

lack of reliable studies on alternative treatment/therapy to Ritalin for ADHD, also its addictive potential is not known. This prompted my research on this topic.

#### **1.4 PURPOSE OF THE STUDY**

The primary focus of the study was to assess the effectiveness of alternative treatments for children diagnosed with ADHD. There are many controversies regarding the use and abuse of Ritalin as medication for children diagnosed with ADHD. Whilst there are many studies and literature pertaining to ADHD, there appears to be a lack of research regarding alternative methods of treatment or therapy.

The aim of this study is therefore to ascertain which type of treatment alternative to Ritalin is most effective and also to make people aware of alternative treatment or therapy.

#### **CRITICAL QUESTIONS**

- Which alternative treatments/therapies the families have tried?
- Which treatments/therapies were considered the most helpful and why?
- What is the present status of the child clinically diagnosed with ADHD i.e. what difficult behaviours have been resolved and what behaviours remain?

## **CHAPTER TWO**

### **LITERATURE REVIEW**

*Churchill, Einstein and some of the most influential people of all times had one thing in common. They channelled their ADHD activity, drive and single-mindedness to achieve greatness (Green C & Chee K, 1997.p9)*

#### **2.1 Definition of terms**

**Alternative treatment-** natural approaches to healing that are non-toxic and safe, including homeopathy, acupuncture and many other methods.

**Attention Deficit Disorder (ADD)** - a diagnosis based on a constellation of symptoms that include hyperactivity, attention problems, and/or impulsivity.

**Attention Deficit Hyperactivity Disorder (ADHD)-** synonymous with ADD.

**Co-morbidity-**it refers to the probability that many ADD/ADHD children will present with more than one disorder at the same time.

**Impulsivity-** it involves the inability to control or moderate impulses.

**Inattention-** the person has trouble maintaining sustained attention and focus for a long period of time.

**Ritalin-** a stimulant medication commonly used for ADD and ADHD

**Stimulant-** a substance, prescription or recreational, which stimulates the nervous system.

**Carte Blanche-** a documentary on M.NET, a South African television station.

## **2.2 INTRODUCTION**

Attention deficit hyperactivity disorder (ADHD) is the most commonly diagnosed behavioral disorder of childhood, estimated to affect 2 to 5 percent of all children. Its core symptoms include developmentally inappropriate levels of attention, concentration, activity, distractibility, and impulsivity. Children with ADHD usually have functional impairment across multiple settings including home, school, and peer relationships. ADHD has also been shown to have long-term adverse effects on academic performance, vocational success, and social-emotional development (Green & Chee, 1997)

Despite the progress in the assessment, diagnosis, and treatment of children and adults with ADHD, the disorder has remained controversial. The diverse and conflicting opinions about ADHD have resulted in confusion for families; care providers, educators, and policymakers. The controversy raises questions concerning the literal existence of the disorder, whether it can be reliably diagnosed, and, if treated, what interventions are the most effective. One of the major controversies regarding ADHD concerns the use of psycho-stimulants to treat the condition. Psycho-stimulants, including amphetamine, methylphenidate, and pemoline, are by far the most widely researched and commonly prescribed treatments for ADHD. Because psycho-stimulants are more readily available and are being prescribed more frequently, concerns have intensified over their potential overuse and abuse.



Determining if a child has ADHD is a multifaceted process. Many biological and psychological problems can contribute to symptoms similar to those exhibited by children with ADHD. For example, anxiety, depression and certain types of learning disabilities may cause similar symptoms.

## **2.3 DEFINITION OF ADHD**

ADHD has been accorded the status of being the most common neurobehavioral disorder of childhood. Although ADHD has a history of myriad definitions, operational definitions have been fairly sparse (Barkley, 1982).

"Attention Deficit Hyperactivity disorder (ADHD) is an early onset, biological disorder, classically characterized by a triad of symptoms: hyperactivity, inattention and impulsivity. These 3 symptoms are persistent and at developmentally inappropriate levels." (<http://www.adhd.org.nz/Hyper1.html>)

According to the Diagnostic & Statistical Manual of Mental Disorders (4th edition) the most widely used diagnostic criteria for ADHD can be broken down into 3 sub-categories:

- Attention deficit/hyperactivity disorder: **combined type**
- Attention deficit/hyperactivity disorder: **predominantly inattentive type**
- Attention deficit/hyperactivity disorder: **predominantly hyperactive or impulsive type** (Barkley, 1995:119)

Generally an ADHD child will be diagnosed with one of the three depending on their symptoms.

The Diagnostic & Statistical Manual of Mental Disorders (DSM) is one of the most widely used means of defining mental disorders. The use of diagnostic criteria for each mental illness/condition allows agreement between clinicians and specialists concerning the topography of each condition. The manual is maintained by the American Psychiatric Association

Attention Deficit Hyperactivity disorder is defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association [APA], 1994.) These official criteria, listed below, describe in more detail than past DSMs the symptoms of ADHD (with hyperactivity) and also of ADD (without hyperactivity).

A. Either 1 or 2

1. Six or more of the following symptoms of **inattention** have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:
  - a. Often fails to give close attention to details or makes careless mistakes in schoolwork, 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 schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
  - e. Often has difficulty organizing tasks and activities
  - f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as school work or homework)
  - g. Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
  - h. Is often easily distracted by extraneous stimuli
  - i. Is often forgetful in daily activities

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

### **Hyperactivity**

- c. Often fidgets with hands or feet, or squirms in seat
- d. Often leaves seat in classroom or in other situations in which remaining seated is expected
- e. Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- f. Often has difficulty playing or engaging in leisure activities quietly
- g. Is often "on the go" or often acts as if "driven by a motor"
- h. Often talks excessively

### **Impulsivity**

- i. Often blurts out answers before questions have been completed
  - j. Often has difficulty awaiting turn
  - k. Often interrupts or intrudes on others (e.g. butts into conversations or games)
- B. Some hyperactive, impulsive or inattentive symptoms that caused impairment were present before 7 years of age
  - C. Some impairment from the symptoms is present in two or more settings (e.g., at school or work and at home)
  - D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning

E. The symptoms do not occur exclusively during the course of a pervasive developmental disorder, schizophrenia, or other psychotic disorder, and are not better accounted for by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder.)

(Umansky and Smalley, 1994:22-24)

ADHD is a developmental disorder of self-control. It consists of problems with attention span, impulse control and activity level. These problems are reflected in impairments in a child's will or capacity to control his/her behaviour relative to the passage of time- to keep future goals and consequences in mind. It is not, as other books will tell you, just a matter of being inattentive and overactive. It is not just a temporary state that will be outgrown, a trying but normal phase of childhood. It is not caused by parental failure to discipline or control the child, and it is not some sort of inherent "badness" in the child. ADHD a real disorder, a real problem, often a real obstacle. It can be heartbreaking and nerve wrecking (Barkley, 1995).

## **2.4 THE MODERN VIEW**

Barkley (1995) discusses a modern theoretical perspective that conceptualises ADHD as a four-part problem. The condition most people refer to, as ADHD is not true ADHD. Barkley writes in his book that there are only two parts of true ADHD i.e. hyperactive-impulsive behaviours and attention deficit learning problems. The above two parts are then affected by the presence or absence of a third part, the co-morbid conditions. These associated problems e.g. Dyslexia, Oppositional Defiant Disorder and Conduct Disorder, are not caused by ADHD but occur in over 50% of the children who have ADHD. The three parts are then influenced by a fourth part, the standard of parenting and support in a child's environment.

## **2.5 THE CO-MORBIDITIES – associated conditions**

Co-morbidities refer to the occurrence of another disorder with ADHD.

The presence of ADHD has a great influence on the increase of the co-existence of associated or co-morbid conditions. They include specific learning disabilities, oppositional defiant disorder, conduct disorder, depression, tics, Tourette's syndrome, co ordination problems, obsessive-compulsive disorder, and bipolar manic depression disorder (Green & Chee, 1997)

## **2.6 DIAGNOSIS**

**“Diagnosis is only the start; it is what happens after that which really matters”.**

(Green & Chee, 1997:69)

ADHD is the most common behaviour problem diagnosed during childhood. The specific criteria for diagnoses are found in the DSM IV of the American Psychiatric Association. There is no definite test for ADHD. Dr Kit Chee, a Pediatrician specializing in the behavioural and learning problems of children, uses formal questionnaires, detailed objective testing and a carefully taken history when she assesses children (Green & Chee, 1997)

Dr Christopher Green, who is also a specialist pediatrician and author of Understanding A.D.H.D., relies on the subtleties of history, the presentation of the child and the reports of educators.

Under hyperactivity, the first and most powerful symptom is, often fidgets with hands or feet or squirms in seat. The second is, often leaves seat in classroom and the third is, often runs about and climbs excessively. These are normal behaviours or they could be behaviours of a kid who is not disciplined well or could be of kid who is in a too big a classroom or doesn't have a teacher who can hold his attention. It has got nothing to do with the pain or suffering of the child. There is nothing in the diagnosis of the child being anxious or being upset - actually just an excuse for drugging kids (M.NET, 2003).

Most of the medical world disagrees. Although, Professor Venter does insist on careful evaluation and diagnosis.

Prof. Venter, who heads up the Department of Paediatrics and Child Care at

University of Free State, thinks first of all, you must make sure that the child can see and hear well. He told the public, in his interview with Carte Blanche that it sounds like a crazy thing but children with those deficits can certainly look like children with Attention Deficit Disorder children, one has to take a very good history and if you think that there is emotional issues involved then GP's should not treat these children but refer them (Carte blanche, 2003).

There are many behaviours that mimic ADHD. Some of these behaviours include the normal active child, intellectual disability, specific learning disability, epilepsy and brain injury (Green & Chee, 1997)

Over the years researchers have worked hard to bring some science to the diagnoses of ADHD. Questionnaires have been created which allow teachers and parents to rate the behaviours. The American Psychiatric Association has come up with a list of criteria. Psychologists have developed tests and profiles that point to the presence of ADHD. Others have devised ways to measure attention and persistence (Green & Chee, 1997:65).

A comprehensive evaluation is necessary to establish a diagnosis, rule out other causes and determine the presence or absence of co-occurring conditions. Such an evaluation should include a clinical assessment of the individual's academic, social and emotional functioning and developmental abilities. Additional tests may include intelligence testing, measures of attention span and parent and teacher rating scales. A medical examination by a physician is also important. Diagnosing ADHD in an adult requires an examination of childhood, academic and behavioral history. The problems need to be rooted in childhood but persist into adulthood.



Professionals may promote their way of assessing as the one and only method, but there remains no completely reliable test for ADHD. The methods currently available bring some objectivity into a very subjective area, but they are not foolproof and can be seen as nothing more than pointers towards a probable diagnoses of ADHD (Green & Chee, 1997:65).

*A diagnosis should not diminish one; it should not reduce a person to the number of characteristics implied by the diagnosis* (Bester, 2000:11).

Diagnosis or no diagnosis, Dr Breggin says there's no reason for Ritalin.

(Carte Blanche, 2003)

## **2.7 PREVALENCE**

Nobody knows the exact number of children with ADHD in South Africa. In the USA, however, approximately 2-5% of the school age population has been diagnosed with one of the 3 types of ADHD. ADHD is rarely diagnosed in countries with more evident concern for children, such as Denmark, Norway, and Sweden, where psychiatric drugs of any kind are much more rarely given to children. A doctor working in England's National Health Service is not allowed to give methylphenidate in routine practice because it is not on the approved drug list. The doctor could prescribe amphetamines, which have a similar effect, but this is discouraged and relatively rarely done. According to the DSM-IV, ADHD occurs in boys up to four to nine times more frequently than in girls and Conduct Disorder is "much more common in males" in whom the rates vary from 6% to 16%. (<http://www.breggin.com>)

Boys are at least three times as likely than girls to develop the disorder; indeed, some studies have found that boys with ADHD outnumber girls with the condition by nine

to one, possibly because boys are genetically more prone to disorders of the nervous system. The behavior patterns that typify ADHD usually arise between the ages of three and five. Even so, the age of onset can vary widely: some children do not develop symptoms until late childhood or even early adolescence. Why their symptoms are delayed remains unclear.

Huge numbers of people are affected. Many studies estimate that between 2 and 9.5 percent of all school-age children worldwide have ADHD; researchers have identified it in every nation and culture they have studied. What is more, the condition, which was once thought to ease with age, can persist into adulthood. For example, roughly two thirds of 158 children with ADHD in a study done in the 1970s still had the disorder in their twenties. And many of those who no longer fit the clinical description of ADHD were still having significant adjustment problems at work, in school or in other social settings.

## **2.8 ONSET & DURATION**

The onset of symptoms is early in childhood, before 7 years of age (generally noticeable at 4-5 years). And for approximately 75% of ADHD sufferers, these symptoms continue into adulthood, although levels of hyperactivity may decrease with age.

## **2.9 THE CAUSE**

There are many controversies among researchers on the causes of ADHD.

Green and Chee (1997) discuss two things that are certain, first, it is a hereditary condition and second, the problem of ADHD results from the subtle difference in the fine-tuning of the brain. There are many theories and debate around the exact nature of the brain difference. Some doctors see ADHD as part of a normal spectrum of temperament, but the majority believes that it is a syndrome, which is separate from temperament (Green & Chee, 1997).

### **2.9.1 A hereditary condition**

It is often found in research that a parent or close relative has ADHD. If a parent has ADHD and SLD (specific learning disabilities), the child often inherits both. In studies that were done on identical twins it was proven that if one had ADHD, there was a 90% chance the other will have ADHD. Siblings carry a 30 – 40% risk of inheriting ADHD (Green & Chee, 1997).

### **2.9.2 A problem with the brain**

Impulsive ADHD children show frontal lobe dysfunction. Green & Chee (1997) says that they can't put the brakes on behaviour. The areas of the brain that collect auditory and visual input seem overloaded in ADHD and therefore they are bombarded by a lot of unnecessary information. In ADHD children the brain chemicals, dopamine and noradrenaline appear to be produced in low volumes. The correct levels of dopamine allow us to inhibit what is unimportant and retain attention on a task. It sustains readiness and does not allow our own thoughts or outside activity distract us. This explains why these children have a problem with inattentiveness. Noradrenaline is the brain chemical that deals with the 'fight and flight' reactions. It provides us with the animal instinct that allows us to quickly focus

on what's important and then act appropriately. Ritalin increases the levels of these brain chemicals (Green & Chee, 1997).

## **2.10 HOW IS ADHD TREATED?**

Most experts recommend a multimodal treatment approach for ADHD, consisting of a mix of medical, educational, behavioral, and psychological interventions.

Interventions may include educational modifications and accommodations, behaviour modification, parent training, counseling, and medication. One study did show that children treated for two to three years with multimodal therapy (a combination of stimulants, educational remediation, and various psychosocial treatment, including family therapy) did better than those treated only with stimulant medication (Arnold and Jensen, 1995). Medical treatments include commonly used drugs such as stimulants, antidepressants, and clonidine (a drug used to treat high blood pressure in many adults). Behavioural treatments include parent training, teacher consultation and daily report cards. Medication is probably the most widely publicized, and the most hotly debated treatment for ADHD ([www.breggin.com](http://www.breggin.com)).

Several million children are being treated with Ritalin and other stimulants on the grounds that they have attention deficit-hyperactivity disorder (ADHD) and suffer from inattention, hyperactivity, or impulsivity. The stimulants include: Ritalin (methylphenidate), Dexedrine and DextroStat (dextroamphetamine or d-amphetamine), Adderall (d-amphetamine and amphetamine mixture), Desoxyn and Gradumet (methamphetamine), and Cylert (pemoline). Except for Cylert, all of these drugs have nearly identical effects and side effects. Ritalin and the amphetamines can for most purposes be considered one type of drug ([www.breggin.com](http://www.breggin.com)).

As a whole, the hundreds of studies conducted indicate that stimulants, antidepressants and clonidine can be of great help to those with ADHD (Barkley, 1995).

Drugs commonly used to treat ADHD are:

### **2.10.1 Stimulants**

The stimulants, the drug most commonly used, have been shown to be effective in improving behaviour, academic work, and social adjustment in anywhere from 50% to 95% of children with ADHD (Barkley, 1995). How well each child responds may, however, depend on the presence of other problems or co morbidities therefore medication may not help everyone. The stimulants are so named because of their ability to increase the level of activity of the brain. The question that one may ask is, why then do they not make people more hyperactive? Because it seems that the area of the brain they activate is responsible for inhibiting behaviour and maintaining attention to things. In a way they increase the braking power of the brain over behaviour (Barkley, 1995). The three most commonly recommended stimulants for ADHD are the drugs d-amphetamine (Dexedrine), methylphenidate (Ritalin), and pemoline (Cylert).

The decision to place a child on Psycho-stimulant medication such as Ritalin can only be made by a physician, with the parents' consent. School personnel therefore cannot mandate Ritalin treatment; however, teachers might suggest it because they have seen it help other students with ADHD. A rumor has been circulating that schools can put children on Ritalin without parents' knowledge. This is totally unfounded, since Ritalin is a highly controlled substance. The law prohibits doctors and pharmacies from providing Ritalin to schools; prescriptions can only be written and filled for individuals following strict guidelines.

Psycho-stimulants (such as methylphenidate, dextroamphetamine, and pemoline) are the most widely used medication for the management of ADHD-related symptoms. Between 70-80% of children with ADHD respond positively to psychostimulant medications. Other medication includes some antidepressants and antihypertensives. These medications increase attention and decrease impulsivity, hyperactivity and aggression ([www.psyweb.com](http://www.psyweb.com))

### **2.10.2 antidepressants**

Although antidepressants are not as effective as stimulants they are generally recognized as good second-line drugs. Some antidepressants include desipramine (Norpramin and Pertofrane), imipramine (Tofranil), amitriptyline (Elavil), and fluoxetine (Prozac). These drugs were all developed primarily to treat depression, but they have also been used to treat some children with ADHD. They are useful when the ADHD child has not shown a good response to the stimulants, cannot tolerate taking a stimulant, or has depression or anxiety in addition to ADHD. Like all other drugs that modify behaviour, these drugs change behaviour by altering the brains chemistry in certain location (Barkley, 1995)

### **2.10.3 Clonidine (Catapres)**

Another type of medicine recently shown to have some benefit to children with ADHD is clonidine (Barkley, 1995), a drug frequently used to treat high blood pressure in adults. It can also produce changes in behaviour and moods; therefore it is beneficial to ADHD children who get no positive effects from stimulants. Other disorders for which clonidine has been used include migraine headaches, schizophrenia, manic-depression, obsessive-compulsive disorder, panic disorder, and serious eating disorders like anorexia nervosa. Clonidine has also been used in treating the tics, vocal noises, and other involuntary movements seen in Tourette's syndrome.

## **2.11 THE ROLE OF MEDICATION**

For most children and adults with ADHD, medication is an integral part of treatment. Medication is not used to control behavior but to improve the symptoms of ADHD so that the individual can function more effectively. Research shows that children and adults who take medication for the symptoms of ADHD attribute their successes to themselves, not to the medication. It is believed that psychostimulants medications change the levels of important transmitter chemicals in the brain. These neurotransmitters help the different nerve cells to communicate among themselves. Between 70-80 percent of children with ADHD respond positively to these medications. Attention span, impulsivity and on-task behavior improve, especially in structured environments. Some children also demonstrate improvements in frustration tolerance, compliance and even handwriting. Relationships with parents, peers and teachers may also improve.

Psycho-stimulant medication can also be effective in adults who have ADHD. The reaction to these medications can be similar to that experienced by children with

ADHD — a decrease in impulsivity and an increase in attention. Hundreds of studies on thousands of children have been conducted regarding the effects of psycho-stimulant medications, making them among the most studied medications in history. Unfortunately, there are no long-term studies on the use of psycho stimulant medications. Each family weighs the pros and cons of choosing medication as part of the treatment plan for ADHD.

### **2.12 HOW DOES RITALIN WORK?**

According to Breggin, Ritalin "works" by producing malfunctions in the brain rather than by improving brain function. This is the *only* way it works.

In short-term, Ritalin suppresses creative, spontaneous and autonomous activity in children, making them more docile and obedient, and more willing to comply with rote, boring tasks, such as classroom schoolwork and homework. Short-term, Ritalin has no positive effect on a child's psychology or on academic performance and achievement. This is confirmed by innumerable studies and by many professional reviews of the literature. In the longer-term, beyond several weeks, Ritalin has no positive effects on any aspect of a child's life ([www.breggin.com](http://www.breggin.com)).



## **2.13 PRESCRIPTION OF RITALIN**

The form of the short-acting Methylphenidate tablets is 5 mg, 10 mg, and 20 mg.

Effective dose does not necessarily correlate with age, body weight or severity of AD/HD symptoms. Usually the physician prescribes a small starting dose and then gradually. It starts to work in 15-20 minutes and lasts for about 3.5-4 hours.

To avoid the need for taking short-acting methylphenidate three to four times daily, new longer-acting methylphenidate has been developed. Each of the systems described below delivers the same medicine used in short-acting methylphenidate tablets, but does so in a way designed to give extended coverage so a child can get through a school day without having to take pills at school. Many adults find longer-acting preparations more convenient because they do not have to interrupt their workday to take medication for ADHD as often as would be needed for short-acting tablets. Possible side effects are the same as methylphenidate.

Methylphenidate SR 20 (methylphenidate sustained release) (Ritalin) is a long-acting tablet administered by mouth with duration of action of approximately 6-8 hours. The dosage is prescribed on an individualized basis. Possible side effects are the same as methylphenidate. The tablet is in a 20 mg form.

Since ADD and ADHD are neurological disorders that manifest themselves during childhood years, one would assume that the doctors who prescribe Ritalin the most would be specialists like psychiatrists and pediatricians. But according to one of South Africa's biggest medical aid companies, General Practitioners (GP's) top the list of doctors who prescribe this drug (M.NET, 2003)

Professor Venter told Carte Blanche that he had done research in South Africa to look at the population base that we may have to treat and the number of specialists that are available for them. His research concluded that there are just not enough of specialists to so see all of these children. However statistics show that the top ten prescribing GPs are not in fact from remote areas. Eight are in Johannesburg, one in Pretoria and one in Durban.

Novartis declined to divulge their sales figures to Carte Blanche, but said that of the two to six percent of children expected to have ADHD, about half need medication and of those only about 20 percent receive it. So, according to Novartis, about 0.4 percent of children are on Ritalin (Carte Blanche, 2003)

Independent statistics gleaned from South Africa's three biggest medical aid schemes show that Ritalin is being prescribed to one out of ten children on their files. That means, in the wealthier sectors of the population about ten percent of children are taking Ritalin. Data shows that it's prescribed most in Johannesburg and Cape Town (Carte Blanche, 2003).

## **2.14 RITALIN – THE CONTROVESIAL ISSUE**

The use of the stimulant medication methylphenidate, commonly known as Ritalin is not new. It was first introduced in the late 1950's. Recently many parents and the society at large have fear and suspicion about Ritalin because it has been branded unsafe and controversial by media. Because psychostimulants are more readily available and are being prescribed more frequently, concerns have intensified over their potential overuse and abuse.

The ground for these antidrug opinions never came from any scientific source. They originated from sensation- seeking journalists who were fed inaccurate information by pressure groups . . . (Green and Chee, 1997:127)

When it comes to treating their kids with ADHD, many parents are balking at Ritalin and other stimulant medications. Instead, they are trying alternative treatments ranging from social skills training to biofeedback, to nutritional and herbal supplements and meditation -- and even Bible studies ([www.webmd.com](http://www.webmd.com))

Ann Abramowitz, an associate professor of psychiatry and behavioral science at Emory School of Medicine in Atlanta, says there are lots of people who have feelings against medication, against Ritalin, she agrees that it's valid that they do not want to medicate their children, that they want to try other things first, but the summary of the research evidence shows that medication is the most effective treatment (M.NET, 2003)

Effects associated with moderate doses may include decreased appetite and insomnia. These effects occur early in treatment and may decrease with continued dosing. There may be negative effects on growth rate, but ultimate height appears not to be affected.

The Ritalin package insert does not list depression as a side-effect, but says there is a small chance of 'depressed mood'. The leaflet also lists dozens of possible side effects including: loss of appetite, slight growth retardation and sometimes Tourette's syndrome. The insert reads that Ritalin's cardiovascular side effects include palpitations, arrhythmias and changes in heart rate and blood pressure. The insert goes on to state patients requiring long term use should be carefully monitored ([www.ritalindeath.com/packageinsert.htm](http://www.ritalindeath.com/packageinsert.htm))

It is well known that psychostimulants have abuse potential. Very high doses of psycho-stimulants, particularly of amphetamines, may cause central nervous system damage, cardiovascular damage, and hypertension. In addition, high doses have been associated with compulsive behaviors and, in certain vulnerable individuals, movement disorders. There are a rare percentage of children and adults treated at high doses who have hallucinogenic responses (<http://www.webmd.com>)

Some children experience “stimulant rebound” — a negative mood or an increase in activity when medication is losing its effect. This tends to occur in younger children, and is usually seen just as the child arrives home from school.

Literature and research shows that a key worry is that there are no long-term studies evaluating the safety of using stimulant drugs such as Ritalin with young children for a long period of time.

## **2.15 RITALIN VERSUS COCAINE**

In South Africa as in most other countries, Ritalin's prescription is strictly controlled. It is a schedule 7 drug - along with amphetamines and drugs like Rohepnol. Cocaine used to fall into the same category until it was prohibited.

It is no surprise then that Ritalin is high on the list of controversial stimulant drugs and the subject of huge international debate.

Every country puts these drugs in the highest category of addiction and abuse so not, now this is important, not just because of the addiction and abuse issue but drugs that cause addiction, do it by changing the brain. We are changing the growing brains of our children.

All the classic stimulants have very similar effects on the brain, Ritalin, Amphetamine, methamphetamine and cocaine all have effect the same three neurotransmitter systems in the exact same parts of the brain, that can be shown on cat scans, and it can be shown on anatomical studies of animals given these drugs (Carte Blanche, 2003).

Dr Rosemary Tonetti a doctor and Medical Director of Novartis, the pharmaceutical company that manufactures Ritalin, disagrees with Peter Breggin. She agrees that Ritalin is not the same as cocaine. The pharmaco-kinetic and the pharmaco- dynamic effects, that is what the drug does to the body and the body to the drug, are very different, if taken orally and as prescribed the medicine does not have the same effect as cocaine.

The National Institute of Drug Abuse looked into this area, to some extent, and they found that Ritalin is not the same as cocaine.

Despite being the drug that is regulated by rigid manufacturing quotas, Ritalin, a medically approved and controlled substance which is water soluble and intended for oral use, has been abused by many non-medical users who crush the tablet and either snort the powder or dissolve it in water and “cook” it for intravenous injection to obtain cocaine-like stimulant effects (Hamid, 2003).

Ritalin is prescribed to over two million children per year and is an amphetamine-like substance. Medical research indicates that Ritalin functions on the same receptor site in the brain as cocaine and that Ritalin is crushed and snorted to obtain the same kind of high as with cocaine (Hamid, 2003).

The main difference is that cocaine has a harder faster impact and is cleared out more quickly. And that suddenness of impact and suddenness of withdrawal makes cocaine even more dangerous than most stimulants and even more likely to cause an addiction. But it's all the same chemical cloth (Carte Blanche, 2003)

Like Ritalin, cocaine prevents cells from reabsorbing neuron-transmitters. It just works harder and faster resulting in a rush to the brain and an addictive high. The reason you see more euphoria with cocaine is because people snort it or take by other methods, which are highly concentrated, and it is also more potent. But when people start doing things with Ritalin, like snorting it, you get the same kind of euphoric effects and in fact cocaine addicts will use Ritalin and amphetamine if they have to (Carte Blanche, 2003).

## **2.16 NON-MEDICAL TREATMENTS**

### **2.16.1 Behaviour Therapy**

An important non-medical approach used in treating children with ADHD is known as behavior therapy or behavior management. Behaviour therapy is based on several simple and sensible notions about what leads children to behave in socially appropriate ways. One reason is that children generally want to please their parents and feel good about themselves when their parent is proud of them. When the relationship between parent and child is basically positive, this is a very important source of motivation. A second reason that children behave appropriately is to obtain positive consequences for doing so (i.e. privileges or rewards). Finally, children will behave appropriately to avoid the negative consequences that follow inappropriate behavior. The goal of behavior therapy, therefore, is to increase the frequency of desirable behavior by increasing the child's interest in pleasing parents and by providing positive consequences when the child behaves. Inappropriate behavior is reduced by consistently providing negative consequences when such behavior occurs (www.athealth.com).

### **2.16.2 Positive Reinforcement**

A positive reinforcer is any pleasant stimulus which follows a response, and which increases the probability that the response will be performed again (Jordaan & Jordaan, 1984:484).

The second focus of behavioral treatment involves providing your child with positive consequences for behaving in appropriate ways.

The simple logic is that you can increase the frequency of desired behavior (e.g. putting away toys) by providing rewards when such behavior occurs.

At the simplest level, this requires nothing more than noticing when your child is doing something you want to encourage (e.g. playing quietly) and making sure to comment on it ("Your doing such a nice job of playing quietly. I really appreciate that."). Think about the kinds of behaviour you want to encourage, make sure your child understands what you want him or her to do, and then be sure to praise your child whenever you happen to observe it occurring. There are few general principles to keep in mind when designing a good behaviour plan that will suit your child (Dr Rabiner, <http://www.helpforadd.com/> 2003).

- Be very clear about what behavior is expected of your child in order to earn the reward and make sure your child's understands this.
- Make sure that the expectation you have for your child is reasonable - do not set you and your child up for failure by having expectations that are not appropriate for your child's.
- Don't try to work on too many different things at one time.
- Let your child participate in choosing the types of rewards he or she can earn
- Design the program so your child has a good chance to experience some initial success.
- Be sure to provide lots of social rewards (e.g. praise) in addition to the more tangible rewards that can be earned.
- Be consistent.



### **2.16.3 Using negative consequences to reduce misbehaviour**

A negative reinforcer is any unpleasant stimulus, which leads to the increased probability of a response that will terminate or avoid the reinforcer (Jordaan & Jordaan, 1984:484).

In addition to using positive reinforcement to encourage good behaviour, behavioural treatment also relies on negative consequences or punishment to reduce undesirable behaviour. Simply stated, when a particular behaviour is consistently followed by negative consequences for a child, it should diminish in frequency and intensity.

Negative Reinforcement should not be confused with punishment. In the case of punishment an unpleasant stimulus (a hiding, a scolding, nagging, etc.) is administered whenever a particular, unacceptable response occurs. Sooner or later the punishment is terminated, but the termination of the punishment is not necessarily dependent on the behaviour of the person being punished. In the case of negative reinforcement the termination and avoidance of the unpleasant stimulus is inevitably dependent on the person's behaviour (Jordaan & Jordaan, 1984:485).

There are many strategies that can be used for success in the classroom. Some include preferential seating, increased vigilance during unstructured times, Studdy buddy, organized work, adjusted workload, incentive system, daily report card and student support team (Umansky & Smalley, 1994)

When it comes to treating their kids with ADHD, many parents are balking at Ritalin and other stimulant medications. Instead, they are trying alternative treatments ranging from social skills training to biofeedback, to nutritional and herbal supplements and meditation -- and even Bible studies.

Some of these methods, like behavioral therapy, are tried and true. But psychologists warn that most of the others have not been thoroughly studied, and some have not been studied at all. Some dietary supplements can even be dangerous, they say.

"There are lots of people who have feelings against medication, against Ritalin," says Ann Abramowitz, PhD, an associate professor of psychiatry and behavioral science at Emory School of Medicine in Atlanta. "It's valid that they don't want to medicate their children, that they want to try other things first. ([www.webmd.com/September, 11,2000](http://www.webmd.com/September,11,2000)). Ann Abramowitz says that many believe that with better parenting, there would not be so many cases of ADHD and there are certainly people in the medical community, pediatricians, who think it's a parenting issue. "Parent training, behavioral therapy, and behavioral interventions in the classroom are "mainstream, well-documented treatments," says Abramowitz. Most often, they are used in conjunction with medication. In some cases, they can replace medication ([www.webMD.com.September 2000](http://www.webMD.com.September2000)).

#### **2.16.4 Behaviour Management**

Behavior management is an important intervention with children who have ADHD. The most important technique is positive reinforcement, in which the child is rewarded for desired behaviour.

It is also called "Token Economy". A token economy is an intensive, in-class positive reinforcement program for building up and maintaining appropriate classroom performance and behaviour. A token program may be needed when other positive reinforcement programs, such as selective use of teacher attention or a home-based reinforcement program, are insufficient to motivate the student with Attention Deficit Disorder to behave and perform appropriately. When this is the case, a tangible

reward program, managed by the teacher, may be needed. Tangible rewards can be conveniently managed through a token reinforcement program.

A token program is one of the most powerful behavioural interventions for improving school behaviour. In children with ADD, the changes in classroom behaviour can be comparable to those obtained by stimulant medications (O'Leary & O'Leary, 1976).

The teacher must develop a method for keeping track of the tokens or points. It is recommended that physical tokens be used for young children (4 to 7 years old), such as poker chips, stars, stamps, or stickers (Barkley 1990).

A survey of teachers' classroom management practices showed that formal token programs were used for increasing appropriate behavior by about 30 percent of teachers, with an average frequency of use between "not at all" and "just a little" (Rosen, Taylor, O'Leary, & Sanderson, 1990).

Robinson, Newby, and Ganzell (1981), using a token economy system, were able to increase the number of completed school tasks for hyperactive children up to the average number of tasks completed by other children in the school (Carson & Butcher, 1992)

Classroom success may require a range of interventions. Most children with ADHD can be taught in the regular classroom setting with either minor adjustment to the classroom setting, the addition of support personnel, and/or "pull-out" programs that provide special services outside of the classroom. The most severely affected may require self-contained classrooms.

The decision to place a child on psychostimulant medications such as Ritalin can only be made by a physician, with the parents' consent. School personnel therefore cannot mandate Ritalin treatment; however, teachers might suggest it because they have seen

it help other students with ADHD or because a child under the influence of Ritalin is less disruptive and teachers like that. Sometimes a teacher might suggest the child take Ritalin because he/she is “hyperactive”, but actually the child already knows what the teacher is teaching and he/she is bored.

#### **2.16.5 Vocational Counselling**

Vocational counseling is often an important intervention. Short-term psychotherapy can help the patient identify how his or her disability might be associated with a history of sub-par performance and difficulties in personal relationships. And extended psychotherapy can help address any mood swings, stabilize relationships and alleviate guilt and discouragement.

#### **2.17 ALTERNATIVE TREATMENTS FOR ADHD**

"Alternatives" is an ambiguous term because it encompasses a wide variety of treatments for ADHD from non-western medical traditions to the application of experimental treatments. Though there is no empirical evidence for their effectiveness, many people using them seem to think they make a difference.

Alternative treatments are sought for many reasons:

- Many parents are concerned about the risk of giving their children powerful psychoactive medications (especially over an indeterminable, prolonged period of time).
- Negative publicity about mainstream treatment regimes can often be a catalyst for turning parents to seek alternatives.
- Some parents are simply looking for natural treatments and greater involvement in the therapeutic process.

- Finally, for many children, traditional treatments may not work - therefore alternatives have to be sought.

Skyrocketing costs of conventional medicine also are driving the search for alternatives (Jonas, 1998).

Publications of alternative treatments are rare in scientific journals, but plentiful in popular press and on the Internet. Some of the published material is well researched while other publications are based on opinion alone.

It is important to appreciate that alternatives to the normal medication regimes are available.

From acupuncture to aromatherapy, from homeopathy to hypnosis and from relaxation therapy to reflexology, numerous practices that are termed complementary, alternative, unconventional or integrative treatment have become increasingly prevalent and popular (Fontanarosa & Lindberg, 1997).

### **2.17.1 Homeopathy**

Homeopathy is a unique form of medicine that comes from different roots than conventional medication (Ullman & Ullman, 1996: 55).

200 years ago, Fr Hahnemann developed a therapeutic system based on the concept that illness resulted from an imbalance of "vital energies". This therapeutic system is now known as Homeopathy. Homeopathic treatments generally consist of highly individualised blends of plant, animal and/or mineral extracts. Homeopathic treatment regimes have become very popular throughout Europe and the United States .A careful review was conducted of homeopathic treatments and it was found to be more effective than a placebo for various conditions. Several homeopathic studies have also been conducted on ADHD children and statistically significant improvement has been shown. But these studies were not blind (the investigators knew which children were getting which treatment and this may have influenced the outcome). The mechanisms at work in homeopathy are unknown and, therefore, further research is required before any definitive answer can be given on homeopathic treatments (www.adhd.org.nz)

### **2.17.2 Auditory Stimulation**

For a long time there has been a growing movement concerning the role of music in emotional and cognitive processes. However, there is only one study that has explored auditory stimulation as a possible treatment for ADHD. Abikoff reported that the ability of ADHD boys to solve arithmetic problems improved when they were allowed to listen to their favourite music (www.adhd.org.nz).

A French otolaryngologist, A. Tomatis developed the Tomatis Method of Sound training. This system is based on the theory that auditory integration is critical to

brain maturation and learning. It proposes that combining auditory stimulation and listening training can achieve improvements to focus and attention. There are no scientific investigations into this technique and the number of training sessions required (at least 75) is a turn off ([www.adhd.org.nz](http://www.adhd.org.nz)).

### **2.17.3 Hypnotherapy**

*Look deep in to my eyes...*

We all know that children are very sensitive to the power of suggestion. However, it seems that hypnosis is not a very effective means of controlling ADHD. Hypnosis has little to no effect on the core symptoms of ADHD. It is effective, though, in removing problems associated with the ADHD, such as sleep disturbances or tics ([www.adhd.org.nz](http://www.adhd.org.nz)).

### **2.17.4 Biofeedback**

Biofeedback sounds more complicated than it actually is. The goal of biofeedback is the self-regulation of physiological processes. This is achieved by monitoring a physiological process using a computerized feedback system. The threshold for a particular physiological activity is set and the patient's task is to maintain or better the threshold. Generally biofeedback has been used (successfully) on people trying to lower their blood pressure. More recently, however, the technique has started to show positive results with children that have ADHD. It was demonstrated that 12 out of 19 children with ADHD have increased theta (4-7.75 Hz) and decreased beta 1 (12.75-21 Hz) when compared with children without ADHD ([www.adhd.org.nz](http://www.adhd.org.nz)).

Most of these treatments are most effective when part of a multi-modal treatment.

### **2.17.5 Nutritional Supplements**

Magnesium and mixtures of herbs (silymarin, pycnogel, bilberry, hawthorn, ginkgo biloba) have been marketed for ADHD, but these are unproven ([www.webmd.com](http://www.webmd.com)).

In fact, one supplement, ephedra, "has been linked to several deaths". "That is a stimulant but has not been tested for safety and efficacy. ... You hear people say they want to go to natural solutions, but arsenic is natural. All kinds of things are natural; it does not make them better. Like anything else, it has to be tested to see if it's safe and effective ([www.webmd.com](http://www.webmd.com)).

There is "a tiny bit of evidence that trace mineral supplements, a tiny bit of evidence that fatty acids, may help with ADHD." This means that the findings of studies of these supplements were mixed, one dietary supplement that seems promising in the research so far is alpha omega-3 fatty acids ([www.webmd.com](http://www.webmd.com)).

"ADHD is probably the best studied of all psychological disorders of childhood. Still, our understanding of the psychology of ADHD is far from complete" (Barkley, 1995).

### **2.17.6 Food Restriction Diets**

Abramowitz says some research has suggested that there are a few children who are very sensitive to some foods, such as corn and wheat, but not necessarily sugar.

"Definitive studies haven't been done," she says. "My own personal belief is that there's a subset of children who have sensitivities. I don't currently consider this a first treatment or most likely one to help every child. But it's possible it could help some children" (<http://www.webmd.com>)



Jensen agrees that it's possible there is a small effect for some children, he says the problem is, not enough studies have been done. Most studies show no effect or a small effect in some children. What parents have to consider is that they're gambling. Trying a food restriction diet is unlikely to do much harm, he says, unless it means a parent is delaying effective treatment for a child in crisis.

But, Abramowitz says, trying to find a diet that improves the child's symptoms without driving the parent crazy is very difficult. (<http://www.webmd.com>)

#### **2.17.7 Bio Energetic Synchronization Technique (B.E.S.T.)**

Computerized Bio-Energetic Screening with the BEST System is a form of electro acupuncture biofeedback, which measures the energy of specific organs, systems and tissues at meridian points using a computer-based instrument. The imbalances that are found can correspond to present illness or future disease and homeopathic or nutritional remedies can be found to restore the disturbed energy flow.

The BEST System is a "data inquisition process" used to determine the areas of electrical imbalances in the body. In an ADHD child it controls the imbalances of the brain. It is based on the Chinese medical theory that improper energy flow through the acupuncture meridians causes imbalances in the body. During the past 30 years, doctors have identified the interrelationship between acupuncture point measurement and individual organs and tissues. It allows the doctor to conduct an "interview" with the body's organs and tissues, showing much about the basic functional status of those areas. The computer will show how much stress an organ is under and can guide the doctor on what eliminates the imbalances. It will monitor the progress of therapy, avoiding much trial and error. There are no side effects, no skin piercing, no discomfort, and no electrical impulses are felt during the testing. The only clothing

that must be removed is your shoes and stockings. (Accessed from B.E.S.T. website, January, 2004)

#### **2.17.8 The Feingold Program**

A pediatrician – allergist Benjamin Feingold in the early 1970's, developed the Feingold Program. The proposal made by Feingold, that controlling chemical exposure could reduce the ADHD symptoms, has aroused contention and disagreement among professionals and parents. Despite this, the Feingold Program is popular and is supported by parents and teachers of hyperactive children (Green & Chee, 1997)

Many questions remain to be unanswered in the field of food allergic disorders including the most means of diagnoses, natural history of various disorders identification of various individuals at risk and suitable means of therapy (Hugh & Sampson, 1997).

#### **2.18 ARE PSYCHOSTIMULANTS SUCH AS RITALIN SAFE?**

Hundreds of studies on thousands of children have been conducted regarding the effects of psychostimulant medications, making them among the most studied medications in pharmacological history. Relatively few long-term side effects have been identified. Most problems related to these medications are mild and short-term. The most common side effects are reduction in appetite and difficulty sleeping. Infrequently, children experience "stimulant rebound" – a negative mood or an increase in activity as the medication is wearing off. This tends to occur in younger children, and is more frequent with short-acting medication. These side effects are usually managed by changing the dose and the scheduling for short-acting medications, or by changing to a prolonged-release formulation. There may be an

initial, slight effect on height and weight gain, but studies suggest that ultimate height and weight are rarely affected. Some studies suggest that children with ADHD reach puberty later than their peers. However, for any child who seems to be lagging behind his or her peers, height and weight should be closely monitored ([www.contentrhealth.com](http://www.contentrhealth.com))

A relatively uncommon side effect of psychostimulant medications may be the unmasking of latent tics – the medical term for involuntary motor movements, such as eye blinking, shrugging and clearing of the throat. Often, but not always, the tic will disappear when the medication is stopped. For many teenagers, vocal tics (throat clearing, sniffing, or coughing beyond what is normal) or motor tics (blinking, facial grimacing, shrugging, head-turning) will occur as a time-limited phenomenon concurrent with ADHD. The medications may bring them to notice earlier, or make them more prominent than they would be without medication, but they eventually go away in the latter part of the teenage years, even while the individual is still on medication.

The number of children being drugged has escalated several-fold in the last few years. Ritalin and amphetamine have almost identical adverse effects on the brain, mind and behavior, including the production of drug-induced behavioral disorders, psychosis, mania, drug abuse, and addiction. Ritalin and amphetamine frequently cause the very same problems they are supposed to treat--inattention, hyperactivity, and impulsivity. A large percentage of children become robotic, lethargic, depressed, or withdrawn on stimulants ([www.wellnessmd.com](http://www.wellnessmd.com))

Ritalin can cause permanent neurological tics including Tourette's syndrome. Ritalin can retard growth in children by disrupting the cycles of growth hormone released by the pituitary gland. Ritalin routinely causes gross malfunctions in the brain of the

child. There is research evidence from a few controlled scientific studies that Ritalin can cause shrinkage (atrophy) or other permanent physical abnormalities in the brain. Withdrawal from Ritalin can cause emotional suffering, including depression, exhaustion, and suicide. This can make children seem psychiatrically disturbed and lead mistakenly to increased doses of medication ([www.wellnessmd.com](http://www.wellnessmd.com))

Ritalin is addictive and can become a gateway drug to other addictions. It is a common drug of abuse among children and adults. ADHD and Ritalin are American and Canadian medical fads. The U.S. uses 90% of the world's Ritalin. CibaGeneva Pharmaceuticals (also known as Ciba-Geigy Corporation), a division of Novartis, is the manufacturer of Ritalin. It is trying to expand the Ritalin market to Europe and the rest of the world. Ritalin "works" by producing malfunctions in the brain rather than by improving brain function. This is the *only* way it works. Short-term, Ritalin suppresses creative, spontaneous and autonomous activity in children, making them more docile and obedient, and more willing to comply with rote, boring tasks, such as classroom schoolwork and homework. Short-term, Ritalin has no positive effect on a child's psychology or on academic performance and achievement. This is confirmed by innumerable studies and by many professional reviews of the literature. Longer-term, beyond several weeks, Ritalin has no positive effects on any aspect of a child's life.

Breggin says that labeling children with ADHD and treating them with Ritalin can keep them out of the armed services, limit their future career choices, and stigmatize them for life. It can ruin their own self-image, subtly demoralize them, and discourage them from reaching their full potential.

There is no solid evidence that ADHD is a genuine disorder or disease of any kind. There is a great deal of research to confirm that environmental problems cause

ADHD-like symptoms. A very small number of children may suffer ADHD-like symptoms because of physical disorders, such as lead poisoning, drug intoxication, exhaustion, and head injury. Physical causes may be more common among poor communities in the United States. There is no proof of any physical abnormalities in the brains or bodies of children who are routinely labeled ADHD. They do not have known biochemical imbalances or "crossed wires." ADHD is a controversial diagnosis with little or no scientific or medical basis. A parent, teacher, or doctor can feel in good company when utterly dismissing the diagnosis and refusing to apply it to children ([www.breggin.com](http://www.breggin.com))

The U.S. Department of Education and the National Institute of Mental Health (NIMH) push Ritalin as vigorously as the manufacturer of the drug, often in even more glowing terms than the drug company could get away with legally.

Our society has institutionalized drug abuse among our children. Worse yet, we abuse our children with drugs rather than making the effort to find better ways to meet their needs. In the long run, we are giving our children a very bad lesson-that drugs are the answer to emotional problems. We are encouraging a generation of youngsters to grow up relying on psychiatric drugs rather than on themselves and other human resources (Breggin, 1998).

Although little information exists concerning the long-term effects of psycho stimulants, there is no conclusive evidence that careful therapeutic use is harmful. When adverse drug reactions do occur, they are usually related to dose. Effects associated with moderate doses may include decreased appetite and insomnia. These effects occur early in treatment and may decrease with continued dosing. There may be negative effects on growth rate, but ultimate height appears not to be affected.

It is well known that psycho-stimulants have abuse potential. Very high doses of psycho-stimulants, particularly of amphetamines, may cause central nervous system damage, cardiovascular damage, and hypertension. In addition, high doses have been associated with compulsive behaviors and, in certain vulnerable individuals, movement disorders. There is a rare percentage of children and adults treated at high doses who have hallucinogenic responses. Drugs used for ADHD other than psycho stimulants have their own adverse reactions: tricyclic antidepressants may induce cardiac arrhythmias, bupropion at high doses can cause seizures, and pemoline is associated with liver damage.

### **2.19 ADHD AND SCHOLASTIC PERFORMANCE**

Students with ADHD have a greater likelihood of grade retention, dropping out of school, academic underachievement, and social and emotional adjustment difficulties, unless they receive adequate and appropriate treatment. This is probably because ADHD makes children vulnerable to failure in the two most important arenas for developmental mastery – school performance and peer relations. Children with ADHD are not unable to learn, but they do have difficulty performing in school due to poor organization, impulsivity, hyperactivity, inattention, and distractibility. However, some children with ADHD also have learning disabilities, further complicating identification and treatment. ADHD frequently coexists with other learning, behavioral, emotional, and developmental problems. These include learning disabilities-particularly reading, writing, spelling, and math-speech and language disorders; conduct disorder, oppositional defiant disorder, mood disorders, and anxiety disorders ([www.contentr health.com](http://www.contentrhealth.com))

ADHD also affects memory-especially working memory-and organization. Untreated ADHD can lead to poor self-esteem and poor social adjustment. Children with

ADHD commonly experience interpersonal difficulties and peer rejection, and have been shown to elicit more negative feedback from teachers. ADHD occurs across all levels of intelligence, yet even bright or gifted children with ADHD may experience school failure. Despite natural ability, their inattentiveness, impulsivity, and hyperactivity often result in failing grades, retention, suspension, and expulsion. Without proper diagnosis, accommodations, and intervention, children with ADHD are more likely to experience negative consequences ([www.contentr health.com](http://www.contentrhealth.com)).

Since the 1940s, psychiatrists have applied various labels to children who are hyperactive and inordinately inattentive and impulsive. Such youngsters have been considered to have "minimal brain dysfunction," "brain-injured child syndrome," "hyperkinetic reaction of childhood," "hyperactive child syndrome" and, most recently, "attention-deficit disorder." The frequent name changes reflect how uncertain researchers have been about the underlying causes of, and even the precise diagnostic criteria for, the disorder ([www.contentr health.com](http://www.contentrhealth.com)).

Within the past several years, however, those who study ADHD have begun to clarify its symptoms and causes and have found that it may have a genetic underpinning. Today's view of the basis of the condition is strikingly different from that of just a few years ago. It was found that ADHD is not a disorder of attention per se, as had long been assumed. Rather it arises as a developmental failure in the brain circuitry that underlies inhibition and self-control. This loss of self-control in turn impairs other important brain functions crucial for maintaining attention, including the ability to defer immediate rewards for later, greater gain ([www.contentr health.com](http://www.contentrhealth.com)).

Now it is found that ADHD involves two sets of symptoms: inattention and a combination of hyperactive and impulsive behaviours. Most children are more active, distractible and impulsive than adults. And they are more inconsistent, affected by

momentary events and dominated by objects in their immediate environment. The younger the children, the less able they are to be aware of time or to give priority to future events over more immediate wants. Such behaviors are signs of a problem, however, when children display them significantly more than their peers do.

To help children (and adults) with ADHD, psychiatrists and psychologists must better understand the causes of the disorder. Because researchers have traditionally viewed ADHD as a problem in the realm of attention, some have suggested that it stems from an inability of the brain to filter competing sensory inputs, such as sights and sounds. But recently scientists led by Joseph A Sergeant of the University of Amsterdam have shown that children with ADHD do not have difficulty in that area; instead they cannot inhibit their impulsive motor responses to such input. Other researchers have found that children with ADHD are less capable of preparing motor responses in anticipation of events and are insensitive to feedback about errors made in those responses. For example, in a commonly used test of reaction time, children with ADHD are less able than other children to ready themselves to press one of several keys when they see a warning light. They also do not slow down after making mistakes in such tests in order to improve their accuracy ([www.contentr health.com](http://www.contentr health.com))

Attention Deficit Hyperactivity Disorder is a neurologically based disorder. Children, teens, and even adults with ADD or ADHD often have problems with paying attention to boring work, such as most schoolwork, although they may do well with exciting or stimulating tasks. Many with ADD ADHD are also impulsive, doing or saying things without first considering the consequences.

People with Attention Deficit Disorder are typically easily bored. They like to move around a lot. They often move around from one activity to another, without ever finishing things that they start ([www.wellnessmd.com](http://www.wellnessmd.com))



Attention Deficit Hyperactivity Disorder is a brain thing. It is a matter of poor self-control, but in the neurological sense rather than the "moral" sense. Self-control is a neurological issue. Individuals with ADHD tend to have slower brainwave activity in the front regions of the brain, which is the part of the brain that helps us to decide what to pay attention to in the world around us. Of course, it is not just this simple. There are often several regions in the brain that are impacted, and several neurotransmitters are also involved.

But the important thing here for parents and teachers to remember is that a child who truly has Attention Deficit Disorder was born with the problem. It is not just a matter of the child being lazy, bored, or lacking self-control on purpose.

## **2.20 LOOKING AHEAD**

Literature shows that there has been a belief that children eventually outgrow ADHD.

Today we recognize that the disorder does not disappear at adolescence; it changes (Watchel, 1998:133). Hyperactivity changes to restlessness and inattention, impulsivity continues into adulthood. Among adults if ADHD is not treated it gives rise to other problems. Examples of these problems are: it may be difficult to hold a steady job, it may be difficult to get a tertiary education and it can lead to drug or alcohol dependency. It is for the reasons above that experts today agree that ADHD needs to be treated over a person's lifetime. The same medication and technique that are effective for childhood ADHD are also effective in adults (Watchel, 1998:135).

## **CHAPTER THREE**

### **THEORETICAL FRAMEWORK**

The model adopted for explaining the etiology of ADHD is the biopsychosocial model, which is located within the systems theory.

#### **3.1 MEDICAL MODEL**

The medical model gains its power from a valid bioscientific approach to objectifiable conditions. Disease, the object concerned in medicine, is assumed to be within the individual. So, when doctors move on to look at behaviour, the natural tendency is the Heinrichian one, to see behaviour as a kind of symptom of some condition within the individual. Heinrich could point out that any behaviour or physiological processes within serve action. In contrast, a non-medical model might see behaviour as the action or re-action of a person trying to get through life's tasks and solve the problems of living within relationships and interactions in social systems, such as, for children, school, peer group, agencies, and especially, the family. The distinction between behaviour and action can seem obscure.

([Www.freespace.virgin.net](http://www.freespace.virgin.net))

The medical model supports the idea that a person with social or mental problems is ill. And with much sympathy we label people *mentally ill*, and we often categorize mental problems under the key term *mental illness*. Dr. Thomas Szasz explains it this way:

If we now classify certain forms of personal conduct as illness, it is because most people believe that the best way to deal with them is by responding to them as if they were medical diseases (Szasz, 1978).

The medical model has traditionally offered an extremely narrow perspective, and hampers the progress of an individual if used exclusively (Hamid, 2003).

### **3.2. BIOPSYCHOSOCIAL MODEL**

As a deviation from the medical model, which is obsessed with pathology and labels the person as diseased and unable to take responsibility for becoming healthy, the biopsychosocial orientation subscribes to a wellness rather than an illness model thereby firmly attributing the responsibility of enabling optimum health to all individuals concerned with the welfare of the child with ADHD (Hamid, 2003)

Peterson (1997) describes biopsychosocial as the “Assumption that people and their behaviour are best explained in terms of relevant biological mechanisms, psychological processes and social influences” (p. 20). This explanation presents a powerful approach in many aspects of psychology by relating phenomena in terms of interrelated biological mechanisms, psychological processes and social impacts.

Bertalanffy's (1973) general systems theory is a theoretical and methodological program that attempts to provide a common methodological approach for all of the sciences, based on the concept that systems of any kind, physical, biological, psychological or social, operate in accordance with the same fundamental principles. Systems theory provides the basis of a biopsychological approach, recognizing that behaviour can be explained in terms of multiple contexts.

A recent review of biopsychosocial programs revealed that patients are likely to be more satisfied, improve control of behavioural changes, enhanced physical and psychological health and have better adherence to prescriptions when primary care physicians are more relationship focused. Additionally, research tells us that positive family interactions have improved physical and psychological outcomes and less use

of healthcare resources (Craighead & Miklowitz, 2000). The combination of psychosocial and physiological interventions can be significant for the successful treatment of behavioural disorders like ADHD.

The biopsychosocial approach improves diagnosis and treatment of individuals likely to be chemically dependent.

### **3.3 FAMILY SYSTEMS THEORY**

In Family Systems Theory, it is assumed that the addicted individuals behaviour is intricately inter-connected to the other members and forces within the family ([www.colostate.edu/programs](http://www.colostate.edu/programs))

The word “family” is key and its definition is expansive. Family may be viewed as the immediate family with whom the individual lives, the extended family of relatives and friends and the community at large. Family Systems Theory is a way of understanding present situations in terms of past relationships or family histories. It understands the family as a single emotional unit. The theory recognises interplay between biological, genetic, psychological and sociological factors in determining individual behaviour (Anonymous).

Family Systems Theory argues that it is different from other theories in that it looks at a person and how they fit into their family. It doesn't just see the person's problem as their problem to deal with all by themselves. It keeps the one individual member from believing that they are all alone in dealing with the problem. This is one of the major strengths of this theory. No one person is blamed, each person in that system works together to see how their interaction affects each other and work together to come up with solutions. Some may see this as ignoring the needs of the individual.

Family Systems Theory is a way of understanding presents situations in terms of past family history. It also recognises interplay between biological, genetic, psychological and sociological factors in determining behaviour.

Children with ADHD are not affected alone but, affect the whole family, it is therefore important that the family work together in helping the ADHD child cope with everyday life. Family Systems Theory is one that can be successful if the family works as a whole with the ADHD child to solve biological, psychological and sociological problems and, also learn how to effectively deal with any problem that the family may experience together.

Family Systems Theory gives us useful principles for studying children within the context of their family relationships. This framework requires us to stop operating as if children exist in isolation. Effective interventions understand and respect each family's system ([www.colostate.edu/programs](http://www.colostate.edu/programs)).

## **CHAPTER FOUR**

### **METHODOLOGY**

#### **4.1 ETHICAL GUIDELINES**

The following ethical guidelines will be adhered to throughout the study:

1. People who participate in this study must give consent/willingness to participate in the study.
2. People who are taking part must be informed or briefed about the process of the study.
3. The researcher must make it clear from the beginning how she wants to use the results and that their names will be kept a secret.

This research is a case study of 7 families that have used alternative treatment/therapy to Ritalin for ADHD. This research represents a comparison of Ritalin treatment with alternative treatments for ADHD.

#### **4.2 TYPE OF STUDY: CASE STUDY**

A Case Study may be defined as an extensive study of a single situation such as an individual, family or organisation (White, B. 2000:39).

Johnson (cited in White 2000:39) defines a case study as “an enquiry which uses multiple sources of evidence. It investigates a contemporary phenomenon within its real life context when the boundaries between phenomenon and context are not clearly evident”.

A Case Study is, in reality, a detailed example investigated from all sides (White, B.2000: 39).

A case study is not a single qualitative technique since a number of methods may be used (White, 2000). Due to the nature of the subject matter and the cross section of the participants included children, parents and professionals a study using a single qualitative technique could not be used, hence a case study technique allowed a number of methods to be used in conjunction with each other such as questionnaires, interviews and observations.

In order to add integrity to the research, a multiple case study technique was used which allowed for comparison to build and confirm theories. This approach was suited to a small-scale research carried out by a single researcher, which provides a method to view the subject holistically and to study the interrelationship between the various participants. Although generated data may not be indicative of the entire population, it is specific to the respondents in this study.

### **4.3 SAMPLE AND CRITERIA**

Purposive sampling was used in this study. In purposive sampling the researcher handpicks subjects to participate in the study based on identified variables under consideration. Purposive sampling is used when the population for study is highly unique. In this study the researcher chose those families that have tried both Ritalin and alternative treatment. Purposive sampling also restricts the sample population to a very specific population and then tends to use all of the subjects available. Purposive sampling appealed to the researcher because it can be very useful for situations where you need to reach a targeted sample quickly. In this study, the researcher restricted the sample population to only those children that are either ADD or ADHD and that have used both Ritalin and alternative treatment. The researcher interviewed the child, parent and schoolteacher.

The researcher also used the snowball effect. The researcher found this method most useful, as it is difficult to obtain a sample because families were not willing to share their experiences with their ADD/ADHD child. The researcher identified one parent of an ADHD parent support group. The researcher spoke to that parent and asked that parent to identify other members. The researcher had to then get an informed consent from parents to participate in this study as the subject matter is confidential and intrusive. The researcher chose to work with 7 families, as it was not easy to get consent from families.

Data was collected from three sources: the learner, parent and teacher. Interviews were conducted with the learner and parent. Semi-structured questionnaires were administered to the teachers accompanied by a covering letter stating the purpose and nature of the study and thanking them in advance for their contribution to the study.



#### **4.4 SAMPLE CHARACTERISTICS**

Due to the fact that the researcher obtained the 7 families from a parent support group for ADHD children, geographically the majority of these families are from Hillcrest.

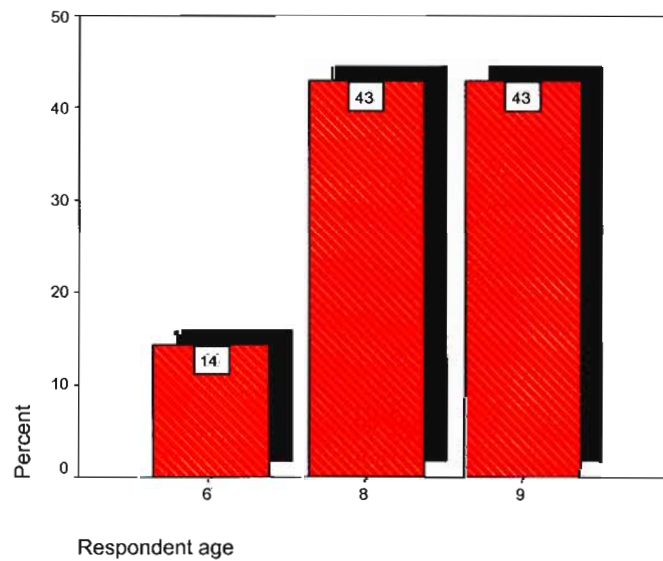
The ages of the children range from 6-10 yrs. The children were in grades 1,2,3and 4 respectively. Six out of the seven children were boys and all of them had siblings.

All the families are white families from middle to upper socioeconomic sector. All respondents are from dual parent families. Three respondents of the seven were on Ritalin for three years, one of the seven was on Ritalin for two years and three of the seven were on Ritalin for one year.

The following is a graphical representation of the sample characteristics, namely, age, gender, grade and school.

**Graph 4.4.1**

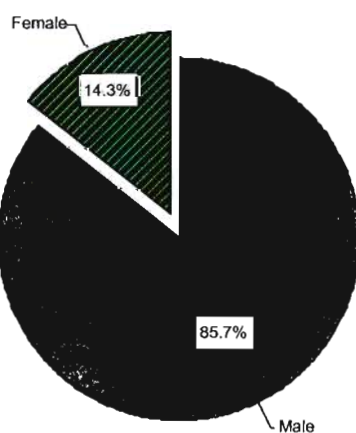
Respondent				
Age	Frequency	Percent	Valid percent	Cumulative percent
Valid 6	1	14.3	14.3	14.3
8	3	42.9	42.9	57.1
9	3	42.9	42.9	100.0
Total	7	100.0	100.0	



According to the graph 14% of the respondents were six years old, 43% were eight years old and 43% were nine years old.

**Graph 4.4.2**

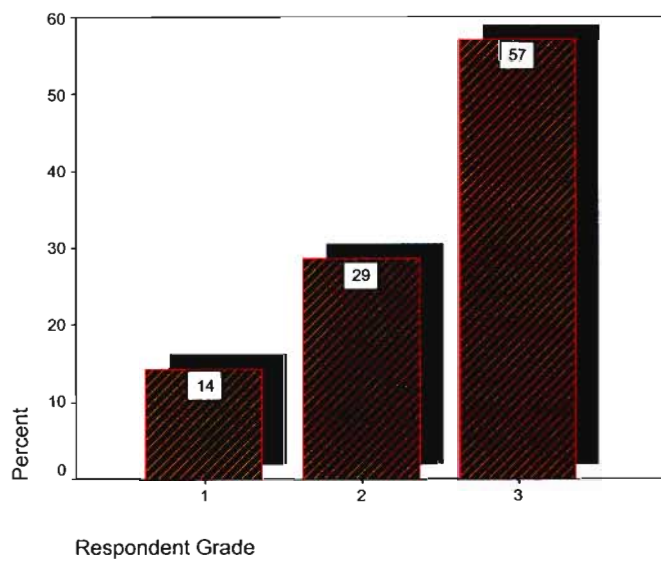
Respondent					
Gender		Frequency	Percent	Valid	Cumulative Percent
Valid	Male	6	85.7	85.7	85.7
	Female	1	14.3	14.3	100.0
	Total	7	100.0	100.0	



According to the graph 14,3% of the respondents were female and 85,7% were males.

**Graph 4.4.3**

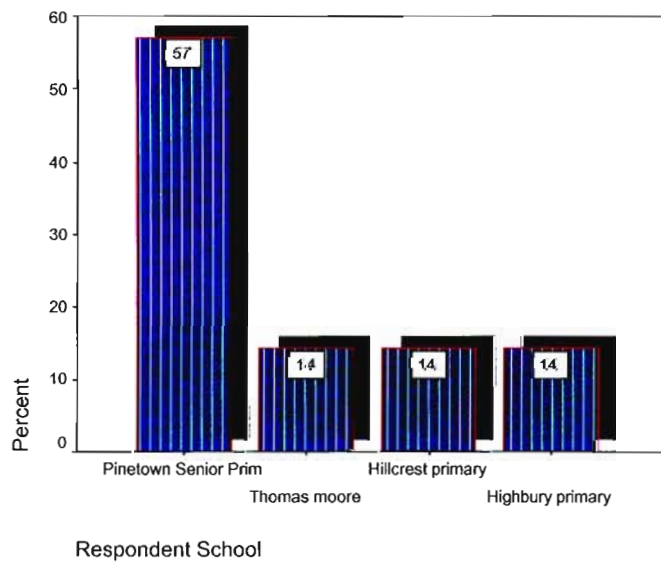
Respondent				
Grade	Frequency	Percent	Valid	Cumulative Percent
Valid 1	1	14.3	14.3	14.3
2	2	28.6	28.6	42.9
3	4	57.1	57.1	100.0
Total	7	100.0	100.0	



According to the graph 14% of the respondents were in grade One, 29% were in grade Two and 57% were in grade Three

**Graph 4.4.4**

Respondent					
School		Frequency	Percent	Valid	Cumulative Percent
Valid	Pinetown Senior	4	57.1	57.1	57.1
	Thomas	1	14.3	14.3	71.4
	Hillcrest	1	14.3	14.3	85.7
	Highbury	1	14.3	14.3	100.0
	Total	7	100.0	100.0	



The graph above shows the schools that the respondents attended. 57,1% of the respondents attended Pinetown Senior primary. This school has a special remedial unit for learners. 14,3% attended Thomas Moore College, 14,3% attended Hillcrest Primary and 14,3% attended Highbury Primary School.

#### **4.5 RESEARCH INSTRUMENT**

The researcher used semi-structured questionnaires with both parents and children.

A semi-structured questionnaire was used because respondents spoke about their personal experience and a fixed response would not have given the interviewer in-depth insight about the respondents' behaviour. By using semi-structured questionnaires the interviewer could ask for further elaboration of answers.

This technique consisted of gathering information using a pre-determined script (questions). All interviews were conducted within a given frame and social situation, in such a way that the presence of an interviewer and an interviewee was taken for granted. All interviews had a specific objective moulded to some extent in proportion to what was expected to be obtained from it. In this study the researcher tried to obtain information about which alternative treatment the families have tried, which treatments were considered the most helpful and what is the present status of the child clinically diagnosed with ADHD i.e. what difficult behaviours have been resolved and what behaviours remain?

The researcher also chose semi-structured interviews because the interviewee was not expected to only give the answer to the question asked but could speak about things that the researcher may not know about.

The researcher also chose semi-structured interviews because the questions were open-ended yet specific in intent allowing individual responses. Semi-structured questionnaires helped elicit more information from children. The researcher used an audiotape recorder to record all interviews with the permission of the interviewee.

The questionnaires was piloted with two families and then used with the other five families. The pilot study was effective as it facilitated the refinement of the questions to both the children and their parents.

**CHAPTER FIVE**

**RESULTS AND ANALYSIS OF DATA**

**5.1 Results: Respondents**

**Table 5.1**

<b>Percentage %</b>	<b>QUESTION 7.1 Have you been on Ritalin?</b>
100	of the respondents are on Ritalin.

<b>Percentage %</b>	<b>QUESTION 7.2 How much?</b>
57.4	of the respondents take 1 tablet a day.
14.2	of the respondents take 1 ½ tablets a day
14.2	of the respondents take 3 tablets a day.
14.2	of the respondents are on Ritalin Slow Release and take 2 tablets a day.

**Table 5.2**

<b>Percentage %</b>	<b>QUESTION 8: How did you feel taking Ritalin?</b>
71.4	of the respondents said they felt fine taking Ritalin.
14.4	of the respondents said they hated taking Ritalin.
14.2	of the respondents said it was not too bad taking Ritalin.

**Table 5.3**

<b>Percentage %</b>	<b>QUESTION 9: Do you think Ritalin helped you? How?</b>
28.5	of the respondents said Ritalin helped them because it made them feel better.
42.9	of the respondents said Ritalin helped them to be good and behave.
14.3	of the respondents said Ritalin sometimes helped them and when it did it made them calm.
14.3	of the respondents felt that Ritalin did not help them.



**Table 5.4**

<b>Percentage %</b>	<b>QUESTION 10: Did Ritalin help you sleep better?</b>
57.2	of the respondents said that Ritalin helped them sleep better
28.6	of the respondents said that Ritalin did not help them sleep better
14.2	of the respondents said that they did not know as to whether Ritalin helped them sleep better or not.

**Table 5.5**

<b>Percentage %</b>	<b>QUESTION 10.1: Did it make you feel sleepy?</b>
42.8	of the respondents said that Ritalin makes them feel sleepy.
42.8	of the respondents said that Ritalin does not make them feel sleepy
14.4	of the respondents said that Ritalin makes them feel sleepy sometimes.

**Table 5.6**

<b>Percentage %</b>	<b>QUESTION 11: Did Ritalin help you concentrate better in class?</b>
71.6	of the respondents said that Ritalin helped them concentrate better in class.
14.2	the respondents said that Ritalin did not help them concentrate better in class as they were tired and could not think straight.
14.2	of the respondents did not know if Ritalin helped them concentrate better in class.

**Table 5.7**

<b>Percentage %</b>	<b>QUESTION 12: Did Ritalin make you feel better?</b>
57.2	of the respondents said that Ritalin makes them feel better.
14.3	of the respondents said that Ritalin did not make them feel better
14.3	of the respondents said that Ritalin makes them feel better sometimes
14.2	of the respondents said that they feel normal when they take Ritalin.

**Table 5.8**

<b>Percentage %</b>	<b>QUESTION 12.1: Did it give you a headache?</b>
71.6	of the respondents said that Ritalin did not give them a headache.
14.2	of the respondents said that Ritalin gave them a headache
14.2	of the respondents said that Ritalin gave them a headache sometimes.

**Table 5.9**

<b>Percentage %</b>	<b>QUESTION 12.2: Did you stop feeling hungry?</b>
57.2	of the respondents said that Ritalin did not stop them from feeling hungry.
42.8	of the respondents said that Ritalin stopped them from feeling hungry.

**Table 5.10**

<b>Percentage %</b>	<b>QUESTION 13: Were your friends nicer to you?</b>
85.8	of the respondents said that their friends were nicer to them after they started taking Ritalin.
14.2	said that there was no difference in the behaviour of friends towards them after they started taking Ritalin.

**Table 5.11**

<b>Percentage %</b>	<b>QUESTION 14: Are things better /people being nicer to you after treatment?</b>
85.8	of the respondents said things are better and people are nicer to them now that they are on Ritalin.
14.2	of the respondents said that there was no change in other peoples behaviour towards them whether they are on Ritalin or not.

**Table 5.12**

<b>Percentage %</b>	<b>QUESTION 15: How would you feel if the Ritalin treatment is stopped?</b>
28.6	of the respondents said that they would feel fine if the Ritalin treatment had to be stopped
28.6	of the respondents said that they would be sad if treatment of Ritalin had to be stopped because if they do not take Ritalin they will be naughty.
14.3	of the respondents said they would be sad if the treatment was stopped because it helps them concentrate better in class.
14.3	of the respondents said they would be happy if the treatment stopped because they do not like taking Ritalin.
14.2	of the respondents said they will be fairly sad if the treatment stopped because by taking Ritalin they have more friends and they do not have nightmares.

## **RESULTS : PARENT**

Tables 5.13 to 5.22 are representative to responses of open-ended questions. The percentages reflect multiple responses from each parent hence are not meant to be categorized as a segment within 100%.

**Table 5.13**

<b>Percentage %</b>	<b>QUESTION 1: When was your child diagnosed with ADD or ADHD?</b>
29.0	of the learners was diagnosed with ADD/ADHD at the age of 3
14.2	was diagnosed at the age of 4.
14.2	was diagnosed at the age of 5.
14.2	was diagnosed at the age of 6
14.2	was diagnosed at the age of 7.
14.2	was diagnosed at the age of 9.

**Table 5.14**

<b>Percentage %</b>	<b>QUESTION 2: A detailed description of behaviours that are thought to be difficult?</b>
43	of the parents said that constant fidgeting was thought to be difficult behaviour
28.5	said that destructiveness was thought to be difficult behaviour
71	thought that inattentiveness was difficult behaviour
28.5	said that mood changes were thought to be difficult behaviour.
57	thought that restlessness was difficult behaviour
43	thought that impulsivity was difficult behaviour
28.5	said that stubbornness was thought to be difficult behaviour
14.2	said that blatant lies was thought to be difficult behaviour
14.2	said that persistence was thought to be difficult behaviour
14.2	said that aggressiveness was thought to be difficult behaviour.

**Table 5.15**

<b>Percentage %</b>	<b>QUESTION 5: Can you give me a list of what has been tried (treatment and therapy)?</b>
71	of the parents tried the diet as a treatment before settling on Ritalin.
43	of the parents tried multivitamins
28.5	of the parents tried Occupational Therapy
14.2	tried Biokinesis
28.5	tried Electromagnetic Frequency (EMF).
14.2	tried Bio Energetic Synchronization Technique (BEST).
28.5	tried carmalin.
43	tried Homeopathic treatment
28.5	tried Mellaril
14.2	tried Egonol.
28.5	tried herbal products
14.2	tried Emotional therapy.
14.2	tried an exercise programme
14.2	tried Speech Therapy
14.2	tried Risperidal
14.2	tried Dexedrine.

**Table 5.16**

<b>Percentage %</b>	<b>QUESTION 6: Which treatment/therapy was most helpful?</b>
14.2	of the parents said that the diet was considered to be most helpful
14.2	of the parents said that the multivitamins were considered to be most helpful.
28.5	said that Occupational Therapy was considered most helpful
57	of the parents said that Ritalin was most helpful.
14.2	said that Mellaril was most helpful

**Table 5.17**

<b>Percentage %</b>	<b>QUESTION 7: Which treatment or therapy was most harmful?</b>
57	of the parents said that Ritalin was considered to be most harmful.
14.2	said that Mellaril was most harmful.
14.2	said that Egonol was most harmful
14.2	said that Occupational Therapy was most harmful.
14.2	said that Risperidal was most harmful.
14.2	of the parents thought that no therapy or treatment that had been tried was harmful.

**Table 5.18**

<b>Percentage %</b>	<b>QUESTION 8: Which treatment/therapy did not help in any way?</b>
14.2	of the parents thought that Biokinesis did not help in any way
14.2	of the parents thought that homeopathic treatment did not help in any way.
14.2	of the parents thought that multivitamins did not help in any way
14.2	of the parents thought that Ritalin 5mg and 10mg did not help in any way.
14.2	of the parents thought that Occupational Therapy did not help in any way
42.8	of the parents thought all treatment/therapy that they tried were good in some way or the other.

**Table 5.19**

<b>Percentage %</b>	<b>QUESTION 4: What is the impact of the child on the family?</b>
71	of the parents said that the older or other siblings are compromised.
42.8	of the parents stated that they argue over the respondent
57	of the parents stated that they had to change their social circle of friends and family, as many did not accept their child behaviour.
28.5	of the parents said that the respondents spread an incredible amount of love in the family
42.8	of the parents said that having a child with ADHD emotionally exhausts the family as a whole
14.2	of the parents said that the maternal grandmother will not take care of the respondent or visit the family.
28.5	of the parents said that they are especially protective over the respondents, which actually creates a problem with other siblings.

**Table 5.20**

<b>Percentage %</b>	<b>QUESTION 9: Which behaviours were resolved?</b>
14.5	of the parents said that no behaviours were resolved but the diet improved focus and after EMF the respondent was a lot calmer but all short lived.
14.5	of the parents said that no behaviours were resolved but EMF helped build the respondent's confidence.
28.5	of the parents said that concentration is better
14.5	of the parents said that the respondent is a lot calmer with Ritalin.
14.5	of the respondents said that in school concentration has improved but at home no behaviour has been resolved because the Ritalin has worn off by then.
14.5	of the parents said that respondents are not impulsive.
14.5	of the parents said that all behaviours have been resolved.

**Table 5.21**

<b>Percentage %</b>	<b>QUESTION 10: Which behaviours still persist?</b>
28.5	of the parents said that inattentiveness still persists
14.2	of the parents said that there is still a lack of understanding
14.2	of the parents said that the respondents still appear to not be accepted by friends at school.
14.2	said that impulsivity still persists.
14.2	of the parents said that the respondents are still overactive
14.2	of the parents feels that the respondents still lack concentration when not on Ritalin
28.5	said that stubbornness still persists.
14.2	of the parents said that there is no behaviour that still persists.



**Table 5.22**

<b>Percentage %</b>	<b>QUESTION 11: Have other people in your family been diagnosed with ADHD/exhibited similar behaviour?</b>
28.5	of the respondent's mum and dad exhibit similar behaviour to ADHD but have not been diagnosed.
28.5	of the respondent's mum only exhibit behaviour similar to ADHD but have not been diagnosed.
14.2	of the respondent's brother was diagnosed with ADHD
14.2	of the respondent's brother exhibits similar behaviour but was not diagnosed.
42.8	of the respondent's mother's extended families was diagnosed with ADHD/ADD
14.2	of the respondents had no other family who was either diagnosed or exhibited such behaviour.

## **5.2 ANALYSIS OF DATA**

Qualitative and quantitative modes of analysis were used in this study. Editing and Coding of raw data was implemented

**CRITICAL QUESTION ONE:** *Which alternative therapies/treatment have the families tried?*

The families have tried many alternative treatments and therapies (refer to Table 5.15). No one treatment or therapy had the same effect on the children, as children are unique. Many children were on both alternative treatment as well as Ritalin. This was due to the fact that many parents were forced to put their children on Ritalin as the school requests it. The school felt that when these children were on Ritalin they were easier to manage. In this way it was difficult to ascertain whether the alternative treatment or therapy was effective

Some parents and teachers did not want the child to stay on alternative treatment or therapy because it takes a longer period of time to see results whereas Ritalin is a quick solution.

Of the parents, 71% tried the diet as an alternative. Children avoided consuming foods with high sugar content and a high percentage of preservatives. Many parents were not happy putting their children on Ritalin but resorted to it because it was not only a 'quick fix' but is also required by the teacher. The teachers in this study were not aware of any alternative treatment that the child was on.

Teachers were very happy with learners being on Ritalin and felt that the children were easier to handle and had improved academically. The dosage of Ritalin for each child varied. Generally the respondents were neutral to taking Ritalin however some "hated it". The respondents felt that Ritalin helped them as they behaved in class and

were more attentive. The respondents also stayed out of trouble when they were on Ritalin.

**CRITICAL QUESTION TWO: *Which therapies/treatments were considered the most helpful?***

The families in this study have tried various alternative treatment or therapy to Ritalin (refer to Table 5.15). The study reveals that 57% of the parents stated that Ritalin was most helpful although some parents were not happy with the side effects of Ritalin. The parents said that Ritalin was a quick solution as apposed to alternatives.

Other parents said that Diet, multivitamins, Occupational therapy and Mellaril (drug therapy) were considered most helpful. These parents still had their children on Ritalin because the school wanted the child to be on Ritalin as the child would get some education and was easier to cope with in class.

More than half of the parents felt that Ritalin was harmful but had no option because Ritalin showed results quicker than alternative treatment. Other parents felt that no treatment or therapy including Ritalin was harmful to their child and all treatment or therapy tried (table 5.15) made some difference to the behaviour of the child.

There were alternatives that parents tried which did not help in any way. Some parents said that Biokinesis did not help in any way, others felt that Homeopathic treatment and multivitamins had no effect, whether positive, on the child. The school however did not mention about any other treatment but Ritalin. The educators had seen a huge difference in the respondents when they were on Ritalin. The learner's behaviour and academic performance had improved on Ritalin but as soon as Ritalin

was not administered the performance of the respondent was erratic and the respondent was hyperactive and inattentive.

The study shows that 57.2% of the respondents said Ritalin helped them sleep better. Of the respondents 71.6% said that Ritalin definitely helped them concentrate better in class. The results indicated that 14.4% of the respondents agreed that Ritalin did not make them feel sleepy and Ritalin did not help them to concentrate better in class but it made them tired and they could not think straight.

The results show that 57.2% of the respondents felt well on Ritalin and 14.2% said that Ritalin did not have any effect on them.

The results indicated that 71.6% of the respondents agreed that Ritalin did not give them a headache but 14.2% said that Ritalin gave them a headache.

The study reveals that 85.8% of the respondents felt that their friends and adults were nicer to them when they were on Ritalin as apposed to when they were not on Ritalin. Of the respondents 42.8% said that their appetite was suppressed when on Ritalin.

**CRITICAL QUESTION THREE: *What is the present status of the child clinically diagnosed with ADHD i.e. what difficult behaviours have been resolved and what behaviours remain?***

Tables 5.20 and 5.21 indicate parents' responses to which behaviours are resolved and which persist.

Four of the seven children (refer to graph 4.4.4) were placed in a Remedial Unit at a school. These children were much happier and more confident about themselves. Their academic performance also improved.

Results from the interviews with educators reveal that 71.4% of the respondent's concentration in class has improved with Ritalin but this was the case only when the child was medicated. However many unwanted behaviours still persist. Some of the common behaviours include inattentiveness, impulsivity and stubbornness.

Parents felt that Ritalin was very short-lived and once the medication had worn off the child became difficult to manage again. Parents have the option of administering Ritalin at home but choose not to as they do not want their child to be medicated all the time. Results from table 5.12 indicated that collectively 42.9% of the respondents said that they would be pleased if the Ritalin were stopped however 57.1% said they were not pleased. They felt that when they are on Ritalin they had more friends at school and they concentrated better in class.

Results from the interviews with educators reveal that 42.8% (refer to annexure 6, interview question 6) of the respondents' behaviour at school and academic performance was satisfactory only when they were on Ritalin otherwise if Ritalin was not administered for the day the child was hyperactive and really difficult to manage.

Of the respondents' behaviour in class 28.6% (refer to annexure 6, interview question 2) was unpredictable even though on Ritalin and these respondents seemed to be withdrawn and uncooperative.

Of the respondents' behaviour in class 28.6% (refer to annexure 6, interview question 2) were focused in class and worked quietly when on Ritalin but this only lasted for the morning, after break, when the Ritalin wore off, the respondents were difficult to manage again.

Compared to others in class the teachers found it difficult to teach and manage these learners. The respondents were worse to manage when not medicated.

Even though the respondents in the study are all on Ritalin unwanted behaviour still persist (refer to annexure 6, interview question 2). Behaviour is only resolved temporarily i.e. when the respondent is on medication. Qualitative analyses of the responses of parents support the belief that ADHD is hereditary. Majority of the respondents had immediate or extended families that were either clinically diagnosed with ADHD or exhibited similar behaviour.

## **CHAPTER SIX**

### **CONCLUSION, LIMITATIONS AND RECOMMENDATIONS**

#### **6.1 CONCLUSION: SUMMARY OF FINDINGS**

Information elicited during this study emphasised the difficulty that parents and teachers had with the management of ADHD (refer to annexure 6, interview question 6). The Management of ADHD in the social, home and school environment poses a huge challenge to families, teachers and the community at large.

The study reveals that 71% (refer to table 5.15) parents considered alternative approaches to managing ADHD. They have used alternative treatment with and instead of Ritalin. Parents found that all alternative treatment tried assisted the child in some way, however, Ritalin was preferred by schools as it offered the quickest immediate response, a “quick-fix”. Many parents are still suspicious about Ritalin and fear the long-term effects of the drug on their child.

The interview with teachers showed that they lacked knowledge and understanding of Ritalin and Alternative treatment

Four of the seven children diagnosed with ADHD were placed within the Remedial Unit at a school (refer to graph 4.4.4). It was found that these children were happier and performed better academically in the Remedial unit rather than the mainstream classroom. These children found the environment stimulating with positive attitudes and creative support from teachers.

If we place hyperactive children in the wrong environment we give them even more negative feedback than they already have to endure (Bester, 2000).

Bad feedback will stunt the brain as powerfully as good feedback helps it. Ingenious expression is all too often punished in our society with mockery, envy and adult disapproval (Wenger, Win, Poe & Richard, 1996).

We must not lose sight of the fact that ADHD is a functional problem that may have serious consequences for an individual, their parents, teachers, siblings and the society at large.

This study clearly provides support for the use of Ritalin, although parents expressed reservations about the use of Ritalin. The reservations that parents had towards Ritalin were overshadowed by the support given to the drug by teachers. Teachers supported Ritalin because they saw an improvement in the academic performance and behaviour of the ADHD learner.

The study has achieved its purpose in the sense that it provided answers to whether there are alternative treatments to Ritalin and how effective they are in controlling the behaviours of children/learners with ADHD.

*The most effective way  
to achieve right relations  
with any living thing  
is to look for the best in it,  
and then help that best  
into the fullest expression.*

(Cited in Bester, 2000, p142)  
J.Allen Boone  
“Kinship with all life”, from  
A Guide for the advanced Soul – A Book of Insight



## 6.2 **LIMITATIONS**

- Due to the fact that the sample was initially chosen from a support group, many of the families are from only one geographical area, an up market suburb of Hillcrest.
- The study was limited to the alternative treatments only used by the families in this study.
- Generalizability: the sample is very small; hence the findings cannot be generalized to the larger population.
- Time constraints: going to families and interviewing them at their convenience was time consuming. Hence a larger sample size was not used in this study.

### 6.3 RECOMMENDATIONS

Due to the potential adverse clinical effects of Ritalin parents should manage ADHD with Ritalin as well as an alternative treatment of their choice. During the duration of the school day the Ritalin should be administered to minimize the effect on the learning environment. Outside of the formal learning environment alternative treatment should be pursued more vigorously.

Results of this study indicate that no treatment was preferred by the families but Ritalin was preferred by schools due to the fact that the use of Ritalin assured to a greater degree consistency of behaviour and academic performance of the learner, and hence is recommended as a short term measure until it can be proven that alternative treatment create the similar consistency as Ritalin.

Research and results of this study show hyperactivity can be a nightmare for everyone affected by the behaviour. The “victims” include the children themselves, their despairing parents and their frustrated siblings – the family must therefore attend counselling and a family support group in order to learn to cope with the ADHD child. Counselling and family support groups will help the parents and siblings understand and deal with problems that they may encounter with the affected child. They can also share their experiences and ways in which they best managed the child. Most of all families would know that they are not alone in dealing with an ADHD child. Counselling will also help families decide on the best treatment for ADHD.

All education stakeholders must include in the undergraduate curriculum how to equip teachers to deal with and advise parents in managing the ADHD learner in the classroom, this should also be workshopped with present educators.

To create greater awareness of alternative treatment for ADHD the government must assist in research for alternative treatments and ADHD.

The primary management tool presently available to teachers to assist in the treatment of ADHD at schools is the administering of Ritalin as per prescription. Schools should explore creating awareness among teachers in the use of non-medical techniques such as positive and negative reinforcement and token economy.

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## ANNEXURE 1

### INFORMED CONSENT - PARENT

I, ..... give consent to Ms Kameshni Naidoo to interview my child ..... I have been assured of confidentiality and that where the information about my child is used no name will appear and every effort will be made to disguise identifying details. I understand that the material gathered in the interviews is for the purpose of Ms Kameshni Naidoo's Masters Research. I have been reassured that prior to submission of this study I will be able to scrutinize how this information has been used.

Additionally I, ..... give permission to Ms Kameshni Naidoo to interview.....who serves as an educator to my child .....

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Place

\_\_\_\_\_  
Student's signature

## **ANNEXURE 2**

### **INFORMED CONSENT – EDUCATOR**

I, .....give Ms Kameshni Naidoo full permission to use the information I impart to her Masters Research. I do so having received consent from the parent of ..... to disclose information about their child.

I understand that whatever is disclosed will be kept confidential in terms of the identification of the child's name and identifying details.

_____	_____	_____
Signature	Date	Place

\_\_\_\_\_  
Student's signature



### ANNEXURE 3

#### SEMI-STRUCTURED QUESTIONS-CHILD

1. Did you have a good day today?

What happened! (Why?)

2. Do you remember (SUZANNE) who used to massage your (SHOULDERS,HEAD)?

3. Did you enjoy it? Why?

4. What does it feel like going to all these people?

5. Do you have friends at school?

6. Do you enjoy school?

7. Do you like your teacher? Why?

8. Do you think it helped you? How

9. Did it make you feel better?

10. Did it help you sleep better?

Did it help you concentrate better in class?

11. Were your friends nicer to you?

Was your teacher nicer to you?

12. Are things better/people being nicer to you after treatment?

13. Have you been on Ritalin?

14. How did you feel taking Ritalin?

Did it make you feel sleepy?

Did it give you a headache?

Did you stop feeling hungry?

15. How happy are you? Scale 1-10

## **ANNEXURE 4**

### **SEMI-STRUCTURED INTERVIEW-PARENTS**

1. A clear description of how the child came to be diagnosed.
2. A detailed description of behaviour, which are thought to be difficult.
3. In what other context have difficulties arisen other than home?
4. What is the impact of the child on the family?
5. Can you give me a list of what has been tried (treatment and therapy)?
6. Which treatment/therapy was most helpful?
7. Which treatment/therapy was most harmful?
8. Which treatment/therapy was did not help in any way?
9. Which behaviours were resolved?
10. Which behaviours still persists?
11. Have other people in your family been diagnosed with ADHD/exhibited similar behaviour?
12. What literature have you read?
13. What have you done to help the situation?

## **ANNEXURE 5**

### **SEMI-STRUCTURED QUESTIONS- TEACHER**

1. What can you tell me about the learner's academic performance?
2. How is the learner's behaviour in the classroom?
3. Is he/she performing well or not? Elaborate.
4. Is the type of treatment (medication) effective? Why?
5. How many learners are there in his/her class with a similar condition?
6. Compared to others, how is this learner?
7. What would you recommend?

## ANNEXURE 6

### INTERVIEW WITH TEACHERS

**Critical Question One:** Which alternative therapies/treatment the families have tried.

**Interview Q 5:** *How many learners are there with a similar condition?*

Respondent 1 – 9 out of 13 in the class take Ritalin. This is a remedial unit catering for children with attention difficulties and learning disabilities.

Respondent 2 – 5 out of 20. Some are behavioural problems and concentration problems.

Respondent 3 – 11 out of 13. This is a remedial unit with attention and learning difficulties.

Respondent 4 - 11 out of 13. This is a remedial unit with attention and learning difficulties.

Respondent 5 - 5 out of 12 take Ritalin for ADD/ADHD.

Respondent 6 – There are no other learners with a similar condition.

Respondent 7 - 11 out of 13. This is a remedial unit with attention and learning difficulties.

**Interview Q 6:** **Compared to others, how is this learner?**

Respondent 1 – When he hasn't had medication he is much worse. On medication he fits in with the rest of the class and his behaviour is generally on par with the others. He does, however, still have the tendency to be impulsive and shout out in class.

Respondent 2 – He is completing tasks and is more motivated. His handwriting continues to be untidy. Organisational skills are still lacking. He still likes to be "heard".

Respondent 3 – He is performing in the top range in his class. He will be returning to mainstream next year.

Respondent 4 – He is performing well in maths, reading, written expression and spelling.

Respondent 5 – He is not performing well in comparison to others. His reading is slow and he has difficulty recognising words. His homework does not appear to be well supervised. He has difficulty with the formation of letters and numerals and his written work is slow. His speech is quiet indistinct causing difficulty to understand everything that he says. He has a fair understanding of number concepts and is able to answer questions when working in the group. His written work is weak and he has difficulty understanding instructions.

Respondent 6 – He is a very intelligent boy who does not fulfill his potential. His oral language skills are particularly good but his written literacy skills are weak. Numeracy skills are on par with the average of the class but his recording of numeracy tasks is weak. On tasks completion, he is below average of his class. His general knowledge is superior.

Respondent 7 – She is severely ADHD but is making good progress and will be returning to a small mainstream school next year.

**Critical Question Two:** *Which therapies/treatment were considered the most helpful? Why?*

**Interview Q 1:** **What can you tell me about the learner's academic performance?**

Respondent 1 - Reading skills, spelling and written expression are his main areas of weakness. His numeracy skills are good although he does sometimes take a while to grasp new concepts. Once he has grasped them he does well.

Respondent 2 – He is a very capable young learner. He is however underachieving in the classroom. He does not always give his full attention to the task at hand.

Respondent 3 – He is performing well. He is a bright imaginative child. He reads fluently, writes well-constructed sentences and is good at maths.

Respondent 4 – He is doing well in a small class of 13 learners. He is returning to mainstream next year.

Respondent 5 – He was assessed at the Children's assessment centre in June 2002 whilst in his pre school year. He was found to have an average IQ with a significant discrepancy between his verbal and non-verbal scores.

Respondent 6 – His academic performance is erratic and fluctuates due to erratic concentration, attention, inability to sustain effort and dependant on his emotional well-being. He was diagnosed with ADHD in 2001. He presents with specific learning difficulties for which he has received Occupational Therapy and Remedial teaching.

Respondent 7 – Her performance is erratic. Despite good progress reading is still weak. Spelling is poor. She has a good understanding of maths concepts.

**Interview Q 4:** **Is the type of treatment (medication) effective and why?**

Respondent 1 – He does occasionally forget to take his medication. This has given me the opportunity to observe how effective the Ritalin is. Without it, his behaviour is very different. He is unable to concentrate, behaves inappropriately and he is unable to control his impulsivity. The medication is therefore very effective.

Respondent 2 – Since he started taking Ritalin there has been a definite improvement. Before he was on Ritalin he would arrive at school, anxiety would set in and prior to the academic day beginning, he would plead sick or say he had to go home. This was

as a result of being behind in his work and not being able to face the day. This behaviour has not occurred since he has been taking his Ritalin.

Respondent 3 – He is a difficult child to manage both in class and at home. He is also very sensitive. On Ritalin there are more opportunities for parents and teachers to affirm him.

Respondent 4 – Yes. The Ritalin has made a huge improvement in his performance and hid impulsive behaviour. He takes much greater care over his work.

Respondent 5 – The medication does seem to help him to some extent but it seems a long time to take effect each morning. In class he seems lethargic and has low muscle tone. It is hard to know whether he is actually tired, as he seems to stay up late and watch T.V.

Respondent 6 – He has responded well to Ritalin. There has been a great reduction in hyperactive behaviour, but of late he has not been taking his Ritalin regularly, which has affected his attention and work performance.

Respondent 7 – Yes. Levels of attention are maintained throughout the day.

**Critical Question Three:** *What is the present status of the child clinically diagnosed with ADHD i.e. what difficult behaviours have been resolved and what behaviours remain?*

**Interview Q2: How is the learner's behaviour in the classroom.**

Respondent 1 – When on medication his behaviour is satisfactory. During written tasks he is focused and works quietly and carefully. During oral tasks he does have a tendency to shout out.

Respondent 2 – He sometimes “shout out” answers without putting his hand up. He likes to be “heard”.

Respondent 3 – His behaviour is erratic, as the Ritalin is not consistently administered. Off Ritalin he calls out constantly and is unable to follow simple directions. On Ritalin he works well and is attentive to instructions. He is less likely to disrupt lessons.

Respondent 4 – He works well for most of the day. Tasks are finished timeously. He is slightly more careless and impulsive from 11:30 onwards.

Respondent 5 – He entered class 1 in the unit in January this year. He is having Speech and Language therapy as he was found to have weak receptive and expressive language and a poor auditory memory. He also attends Occupational Therapy to address his perceptual delays. In class he seems lethargic and has low muscle tone. It is hard to know whether he is actually tired, as he seems to stay up late and watch T.V.

Respondent 6 – His behaviour is unpredictable. He does at times focus on the task at hand and is delighted with his excellent results. Most of the time he appears to be withdrawn and spends much of his time in his own fantasy world. He moves around the classroom almost unaware of what is going on around him and needs constant reminders to listen and concentrate.

Respondent 7 – Behaviour is erratic. She fiddles with things on her desk, everything goes in her mouth. She does not disturb others.

**Interview Q3: Is he or she performing well or not? Elaborate?**

Respondent 1 – He is a quick worker and completes all tasks given to him. He is often one of the firsts to finish. He generally tries hard and performs well.

Respondent 2 – Performance is adequate. Could be achieving even higher results than at present.

Respondent 3 – I am satisfied with his performance.

Respondent 4 – I am very happy with his performance. He has been in the unit for three years and has received a lot of therapy.

Respondent 5 - He is fairly co-operative in class though he has difficulty carrying out verbal instructions. He seems to be well liked by the learners and he socialises with other children after school.

Respondent 6 – He has made very good progress on the skills covered in the remedial lessons but he battles to apply his knowledge without teacher assistance and encouragement. If he dislikes a task he will, if possible avoid it. He perseveres on a task that interests him. He is not performing to his true potential.

Respondent 7 – She has made huge improvement in the unit. Ritalin is not administered consistently which accounts for her erratic performance. On Ritalin she is still restless but absorbs the lesson and is able to finish her work timeously.