

**A STUDY OF THE PERCEPTIONS AND ATTITUDES OF TEACHERS AND
CAREGIVERS TOWARDS THE PRESCRIPTION OF RITALIN**

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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ACKNOWLEDGEMENTS

In a research endeavour of this nature, it is not possible to acknowledge individually the numerous authors and individuals who have contributed to the development of research in the chosen field of study. However, I must express a significant debt of gratitude for their inspirational influence.

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

My supervisor, Dr Rashida Naidoo, for her unconditional guidance, encouragement, unfailing help and inspiration.

Dr Cheryl Smith, for her interest and motivational influence.

Indirani Naidoo for the data capturing and statistical analysis of the data.

Saroj Murugan for her stimulating influence, encouragement, keen interest and technical support in this study, for having a ready ear, and giving of her time.

The Department of Education and Culture and the principal and psychologist of the school concerned for consenting to the study, and those educators and parents who participated in the study.

My contemporaries Mehmood Bhamjee, Pretha Shah and Fathima Essack for their sustained support and encouragement.

My mother, Radha, for her emotional support and fervent belief in my resilience and ability to overcome adversity, and my brother Pravesh for his motivational influence.

My children, Riaasat and Israar and my niece Ashallia, for their patience, love, tolerance and understanding.

My husband Salim for his unwavering belief in the strength of our commitment and my ability to see this endeavour come to fruition, for his patience, tolerance and understanding.

My late father and uncle, for instilling in me the virtues of honesty, integrity and an indomitable sense of perseverance.

The Divine Being, for affording me the physical, emotional and spiritual strength and conviction to fulfill this endeavour.

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DECLARATION

I, Shameela Hamid, declare that the dissertation "A study of the perceptions and attitudes of teachers and caregivers towards the prescription of Ritalin" is a result of my own investigation and has not been submitted previously for any degree in any university and that all sources have been indicated and acknowledged by complete references.



SHAMEELA HAMID

2003

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ABSTRACT

The purpose of this study is to investigate how teachers and caregivers at a school for specialised education perceive the prescription and use of Ritalin for children with Attention Deficit Hyperactivity Disorder (ADHD). Corresponding attitudes are also examined, with emphasis being on their knowledge of ADHD and medical management of the disorder. This study has focused on educators and caregivers in a school for specialised education, in the South Durban region, who teach and have children afflicted with ADHD. Questionnaires were administered to 20 teachers and 20 caregivers, who are involved in the management of children with ADHD from pre-primary level to grade nine. Survey data revealed that educators and caregivers at this school have a relatively good knowledge of ADHD. However, knowledge about the prescription and use of Ritalin, particularly of parents, was characterized by some concerns and uncertainty pertaining to its efficacy and management. Teachers and especially caregivers perceived their roles in the medical management of ADHD as being peripheral, with prevailing attitudes towards medical management being coloured by their personal experiences. The implications of the findings of this study are pertinent to teachers, caregivers, professionals involved in the management of children with ADHD, those involved with teacher training and development and the general public.

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CHAPTER ONE

CONTEXT AND PURPOSE OF THE STUDY

*"No one can describe
Me the way I am
No one can enter my brain
At least no mortal man*

*So if you say you know me,
Please sir, look again,
For no one knows who I am but me,
And then do I really?"*

(by a 16 year old boy, cited in Broughton, 1987)

1.1 INTRODUCTION

The enigma of the self, so abstruse yet compelling in its very complexity, challenges every pronouncement of science and pseudo-science. Veritable attempts to unfold the intricate nature of the self have left in its wake more questions than answers. Such is the nature of the condition called Attention Deficit Hyperactivity Disorder (ADHD), an extremely complex disorder that affects individuals from infancy to adulthood.

Originally conceptualized as a primordial soup of deviant behaviours, ADHD has come into its own as a significant disorder that warrants serious attention. Like the self, which presents various faces to the world, ADHD presents itself in varying forms much to the exasperation of laymen and professionals. Its understanding and identification are confounding and challenging not only to professionals and caregivers, but to the affected individual as well. The burgeoning need to obtain a comprehensive understanding of this disorder so as

to provide meaningful intervention has spurred the search for a concise definition, informed understanding and a simple management approach to ADHD. This, however, has proved to be an exhaustive process as ADHD straddles disciplines and conventional academic, social and educational boundaries.

ADHD is a condition that affects children and adults but is better appreciated and understood as a childhood disorder. As a chronic condition having its genesis in childhood and spanning the spectrum of intellectual abilities, the presentation of ADHD varies in its manifestation, making it a unique disorder. A review of research (Barkley, 1990; Barkley, DuPaul & McMurray, 1991; Green & Chee, 1997) indicates that ADHD constitutes a common but extremely complex neurobehavioural disorder that is characterized most often by a distressing cluster of behaviours and cognitive impairments (Barkley, 1990). Essentially it is a performance disorder with a combination of behaviour and learning problems, and not a learning disability. However, learning disabilities may be present as co-morbid problems. Research developments in the past two decades have established ADHD as a serious, developmentally disabling condition that inevitably pervades every aspect of an individual's life. Those afflicted with ADHD suffer enduring difficulties, which necessitate long-term, often lifelong, diverse and multi-modal interventions.

1.2 ADHD AND RITALIN: A CAULDRON OF CONTROVERSY

Despite current interest and the vast array of information available, it is the understanding and appreciation of the disorder, its medical management as well as severity and implications for optimal personal functioning that are fraught with controversy. A perusal of literature has revealed that although ADHD is widely recognized as a debilitating disorder, its conceptualization and understanding has been haunted by discordant professional opinion and there has been a corresponding lack of consensus regarding the diagnostic criteria and

management, particularly medical treatment. As a disorder defying professional consensus (Gumpel and Reid, 1998), corresponding confusion, multiple etiologies, and co-morbidity together with the lack of relevant infrastructure and knowledge concerning ADHD have added to the frustration associated with this disorder (Taylor, 1985; Barkley, 1990; Reichenberg-Ullman & Ullman, 1996; Green & Chee, 1997). However, of late, a newfound acknowledgement and understanding of the heterogeneous nature of the difficulties subsumed within the diagnosis as well as the management of the disorder has initiated a scrutiny of the aetiology and elements of the disorder, and a heightened interest in drug therapy in the form of Ritalin.

ADHD has become a much bandied about concept in educational and clinical circles. In schools, it has been used to identify learners with attentional and behavioural problems. Despite its controversial status, learners with ADHD can be found in every school setting. Impulsivity, hyperactivity and inattention are the core characteristics that define ADHD in children and adolescents. These symptoms manifest themselves in a manner and degree, which may be inconsistent with the child's current developmental level. Learners with ADHD are easily recognizable by their inability to sustain attention, respond consistently to consequences and manage their emotions and inhibit their responses. Incessant restlessness, and impulsive and disorganized behaviour are also salient features. These handicaps impact negatively in almost every aspect of the child's functioning (Alloy, Acocella, & Bootzin, 1996).

The widespread view that ADHD is being diagnosed in "*epidemic*" proportions (Reichenberg-Ullman & Ullman, 1996; Tennant, 1999), precipitating a corresponding increase in the prescription of Ritalin (Breggin, 1996; Reichenberg-Ullman & Ullman, 1996), has been cause for concern, moral outrage and vehement opposition to the use of medication, especially psychostimulants, in the treatment of the disorder. Fervent attempts to discredit medication such as Methylphenidate (Ritalin), which has surfaced as pivotal in

the treatment of ADHD (Greene & Chee, 1997), have served to intensify the controversial status of ADHD and public and professional focus on ADHD. ADHD has been in the international eye for decades (Barkley, 1990, Green & Chee, 1997) and has commanded a powerful platform for the expression of radically differing opinions and beliefs that have been proffered by laymen and professionals, thereby reflecting a diverse and impressive contribution to facilitating an understanding of the condition, or conversely a confounding plethora of views and information.

Undoubtedly, changing ideological bases and perceptions have coloured the clinical and educational landscape significantly, calling into focus the importance of management of the condition. It is precisely this issue that has provided the impetus for this research.

1.3 CONCEPTUALISATION OF ADHD AND RITALIN

Attempts to appreciate management perspectives offered as intervention measures for ADHD necessitate an informed understanding of the conceptualization of ADHD. Conventional views of ADHD typify the disorder as being fundamentally a problem with maintaining attention. Recent research propounds that the marked features of inattentiveness and inadequate concentration emanate from impaired behavioural inhibition and self-control, which have their origins in particular brain structure and genetic defects (Barkley, 1995; Lerner, Lowenthal & Lerner, 1995; Sagvolden, 2000). Ensuing from this has been the proposition that these constitute the focal deficits in ADHD.

As a chronic neurological condition, ADHD is distinguished by developmentally inappropriate attention skills, impulsivity and in some instances hyperactivity (Barkley, 1990), which are considered the primary clinical symptoms by the American Psychiatric Association (APA) (1994). ADHD sufferers frequently present with distractibility and short attention spans. They appear to be

impulsive, uninvolved, inattentive and exhibit an inability to engage in age-appropriate social interactions. These constitute severe impediments that are sufficiently significant to interfere with normal functioning in different settings such as the school, work or home environment. ADHD sufferers experience difficulty sustaining on-task behaviour, focusing attention and completing their work. They are easily distractible and display sporadic interest, often darting from one idea to another, and work endeavours may be characterized by hastiness, untidiness, inefficiency and lack of organization. Self-monitoring and self-correction of responses and behaviours present as formidable problems.

In a modern society that is driven by the need for quick-fixes, immediate gratification of needs and labels for the sake of convenience, it is common practice for ADHD sufferers to be besmirched with labels such as socially and physically clumsy, blundering, overactive, difficult, demanding, inferior, inadequate, dumb, lazy, slow, inept, defiant, temperamental, emotionally labile, disruptive and stupid. Not surprisingly, for the majority of ADHD sufferers, their self-esteem is in tatters, their emotions are in little puddles and their lives appear to be peppered with frustration and failure experiences. With proper identification, diagnosis and management many of these individuals can be helped to lead as normal a life as possible as ***“ADHD is not due to a damaged brain, but it is on the edge of the wide spectrum of normal”*** (Green & Chee, 1997). Attitudes towards the prescription of Ritalin range from enthusiasm to utter disdain. Ignorance, misrepresentation, misinformation, misperceptions pertaining to the etiology of ADHD and the effect of Ritalin and negative media reports have created an ideal climate for the denouncement of Ritalin as an acclaimed, reputable drug in the treatment of ADHD (Greene and Chee, 1997; Levine, 2000; Moodley, 2000).

Considering the strides that have been made in research and the plethora of knowledge and information available on ADHD, it is assumed that the veil of ignorance that enshrouds the understanding and medical management of this

disorder would have become less dense. On the contrary, misconceptions, myths and prejudices abound, with ignorance and misinformation contributing to jaundiced, handicapping and erroneous perceptions and attitudes towards the disorder and medical management in the form of Ritalin. These perceptions and attitudes are examined in the context of this study.

1.4 ADHD AS A DISORDER

Notwithstanding its controversial status and in the absence of conclusive evidence in support of ADHD being a distinct disorder, ADHD is recognized as a distinct clinical disorder in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (APA, 1994) and International Classification of Diseases (ICD-10) (World Health Organisation, 1998), which represent the major classification systems for psychiatric disorders. While these classifications may be useful to clinicians in facilitating the identification and diagnosis of the disorder, the understanding of the disorder is nonetheless hampered by its multiple aetiologies and complex relationships implicated in the interplay of numerous different factors.

In the United States, the terms ADD (Attention Deficit Disorder) and ADHD are employed by different professionals to embrace the same condition. ADD is preferred by education professionals (Lerner 1997), with ADHD being the term applied by medical and psychological communities (APA, 1994).

The numerous and various name changes that have characterized ADHD are indicative of the attitudes toward this syndrome. Although individuals are clumped under the rubric of ADHD, they may not all present with or experience all of the same symptoms and behave in the same manner as symptoms may vary in degree and intensity. Depending on the age, context and intensity of the expressed behaviours, the symptomatic difficulties of ADHD are cogent in effecting serious problems, not just in the lives of those afflicted, but also in the

lives of parents, siblings and those who have close contact with them. The ripple effect produced by ADHD far surpasses the attempts that have been made, thus far, to adequately address the needs of ADHD sufferers.

Being a multifaceted condition ADHD has commanded the attention of professionals and laymen and presents a clinical and public health problem because of its associations with co-existing problems and disability in children, adolescents and adults (Vogel, 2000). As such, it creates an immense impact on society with regard to financial implications, stress to the afflicted individuals and families, interference with academic and vocational endeavours and compromised wellbeing and functioning.

1.5 ADHD: DIAGNOSIS AND PROGNOSIS

Prior research has identified and characterized ADHD as a behaviourally diagnosed syndrome presenting with problems in attention, impulse control, and motor regulation. Although much has been written about ADHD, an appreciable amount of controversy surrounds the empirical validation of current diagnostic criteria. While there has been increased identification and diagnosis of ADHD as a consequence of increased mental health, educational and community knowledge about symptomatology and difficulties associated with ADHD, a salient number of ADHD sufferers remain underdiagnosed or misdiagnosed. Nevertheless, there is general consensus that approximately 3% to 6% of all school-age children suffer from ADHD (Hynd, Hern, Novey, Eliopoulos, Marshall, Gonzalez & Voeller, 1993).

Prognostic indicators show that school-age individuals with ADHD are at considerable risk for school failure, grade retention, learning disabilities, academic underachievement and school dropout with emotional difficulties, negative social and behavioural outcomes and psychological problems featuring prominently in adulthood, if the disorder goes untreated.

1.6 MANAGEMENT OF ADHD

Being a highly complex, multi-dimensional disorder, successful management of ADHD necessitates the employment of a multi-modal approach. Ideally, collaborative efforts between medical and mental health professionals, educators, caregivers and those affected by ADHD should be at the core of management initiatives.

A fundamental issue in the management of ADHD sufferers relates to the use of medication. Presently there is no consensus regarding viable measures to ascertain which sufferers should be given drug therapy, or which medication should be used. Notwithstanding the furore characterizing their use, psychostimulants have emerged as the drugs most commonly used in the medical management of ADHD.

1.7 ADHD SUFFERERS AS EXCEPTIONAL LEARNERS

Learners with ADHD are exceptional learners who have special needs in the sense that they differ from the average learner in mental characteristics, behaviour and emotional development, social development and educational attainment. Marked individual differences within ADHD create serious problems for classroom functioning. According to Lerner (1997) these can be best catered for by providing differentiated educational programmes and services that are tailored to meet the specific needs of each learner.

1.8 THE SOUTH AFRICAN CONTEXT

In the South African context, the challenges presented by ADHD are exacerbated by the idiosyncratic difficulties being experienced as a developing country. Although attempts are being made to address the needs of atypical learners through policy initiatives such as the one focusing on the education of learners

with special needs, it is evident that esconced prejudices, the lack of education support services and the fragmentation of professional services (Department of Education, 1997) have further handicapped learners with ADHD.

1.9 PERCEPTIONS AND ATTITUDES OF TEACHERS AND CAREGIVERS

While impassioned controversy has focused on the use of medication in children, service providers, the media and the general public have neglected to examine the perceptions and attitudes of caregivers and educators towards the prescription and use of Ritalin. Educators spend a considerable and significant amount of time with children thereby making it possible for them to provide valuable insights into the effects of Ritalin. An appraisal of this nature would also help to clarify misconceptions that abound, in addition to dispelling myths and quelling fears regarding ADHD and the prescription and use of Ritalin. This dialectic is explored in this study, which seeks to provide insight into the influential factors that impact on and inform the perceptions and attitudes of educators and caregivers, towards the prescription and use of Ritalin in children with ADHD. For the purpose of this study the term caregivers refers to custodians or guardians, biological parents and foster or adoptive parents. Occasionally, the terms caregivers and parents will be used interchangeably.

1.10 PURPOSE OF THE STUDY

The prime focus of the study was to survey and ascertain the perceptions and understanding of teachers and caregivers regarding the nature and management of ADHD, with specific reference to medical intervention in the form of drug therapy. While studies and literature pertaining to the identification of ADHD abound, there appears to be a perceptible void as regards research concerning the perceptions and attitudes of teachers and caregivers toward the prescription of Ritalin. As significant others who create an indelible impression on children, the perceptions and attitudes of caregivers and teachers toward the prescription

of medication is crucial to the effective management of medication, or the lack thereof.

Critical questions

- How do teachers view the prescription of Ritalin as a means of managing ADHD behaviours?
- How do caregivers view the prescription of Ritalin as a means of managing ADHD behaviours?

1.11 RATIONALE FOR THE STUDY

Ritalin is often prescribed as a first line of treatment for those afflicted with ADHD; an informed understanding and involvement in the management processes is integral to the institution of relevant interventions and their outcomes. Undoubtedly, personal and professional prejudices, inclinations, individual proclivity and ignorance are highly influential in shaping people's knowledge, appreciation, awareness, perspectives and corresponding approaches to the prescription of Ritalin. The polemical nature of medical intervention has given rise to more dissenting voices, in the absence of grounded inquiry. It is anticipated that this study will advance plausible motives, explanations and vindication for the prescription of Ritalin as well as the parallel perceptions and attitudes.

1.12 CONTEXT OF THE STUDY

Extensive exposure to learners presenting with both diagnosed and undiagnosed ADHD at The Brown's School and the Assessment and Therapy Centre at the University of Durban-Westville inspired my interest in this disorder. My attention was piqued by the perceived confusion and misperceptions relating to the disorder, as well as the prevailing ignorance conveyed by parents and the wider community. The perceived marginalisation and exclusion of teachers and

caregivers in the management and treatment of ADHD was a great cause for concern as they play a pivotal role in the identification, diagnosis and management of ADHD.

1.13 THE SIGNIFICANCE OF THIS STUDY

It is envisaged that this study could:

- create and enhance public awareness regarding the severity of the disorder;
- provide an informed understanding of ADHD, with particular reference to treatment and management;
- provide a “balanced” representation of the concerns that characterize ADHD;
- influence a change in erroneous attitudes, beliefs and perceptions associated with understanding the disorder and the prescription and use of medication
- exemplify the critical roles that teachers and caregivers play in the management of ADHD;
- accentuate the need for sustained intensive and widespread initiatives, at macro and micro levels, to address the needs of those afflicted with ADHD;
- help dispel the myths that surround this condition;
- provide an integrated understanding of the functions of the different disciplines and stakeholders in the management of ADHD;
- place ADHD in perspective as a severe and authentic condition that warrants interventions at different levels;
- clarify the role of medication, especially Ritalin, in the management of ADHD;
- inform teacher education and training programmes with reference to understanding and catering for the needs of learners with ADHD.

1.14 METHODOLOGY OF THE STUDY

A survey was conducted at The Brown's School, which caters for learners requiring specialized education. A comprehensive questionnaire was developed to ascertain teachers' and caregivers' attitudes and perceptions towards the prescription of medication (Ritalin) for sustaining on-task behaviour in ADHD children

1.15 LIMITATIONS

This research endeavour lends itself to prodigious scope and depth, with the result that it tended to be rather unwieldy at times. Despite this limitation, this study has some salient implications for the understanding and management of ADHD.

By design, sample surveys focus on small units of a population thereby enabling characterization and analysis of the participating individuals. In this sense, this study may reflect a methodological flaw in its limited generalisability, especially with regard to the application of the findings to different contexts. Problems relating to reliability and validity may be evident because of factors such as personal bias of the respondents, cultural and class differences and social desirability awareness.

1.16 OUTLINE OF THE DISSERTATION

Chapter two will focus on a comprehensive literature review of ADHD, situating ADHD in perspective as a veritable disorder. The conceptualization of ADHD and medical management of the disorder with specific reference to the prescription and use of Ritalin, new trends in the literature as well as contemporary debate will be explored. In chapter three, the research methodology and process will be discussed. The analysis of data represents the

content of chapter four. Chapter five will culminate in the discussion of the results. The final chapter will indicate implications of the findings for those afflicted with ADHD and all those concerned with these individuals, synthesis of the study and relevant recommendations as a way forward.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter a comprehensive overview of ADHD, factors affecting the understanding and management of the disorder, controversial issues pertaining to the identification, diagnosis and medical management of the disorder as well as related roles, attitudes and perceptions of caregivers, teachers and professionals involved in the therapeutic process will be examined. A synthesis of national and international literature pertaining to ADHD and prescription issues will be presented.

2.2 ADHD: OVERVIEW OF THE DISORDER AND ITS MANAGEMENT

Attention Deficit Hyperactivity Disorder (ADHD) has surfaced as a disorder that challenges, and continues to pose a challenge, in terms of the knowledge, perceptions and understanding of clinicians, sufferers, caregivers, teachers and all who come in contact with the afflicted individual. Correspondingly, the conceptualization of ADHD and medical management is coloured by an interesting history reflecting perspectives ranging from the tremulous to the trenchant. While these divergent views have tweaked our imaginations and taxed our mental reserves, we are undoubtedly still caught in the throes of attempting to make sense of a perplexing disorder that is characterized by an increasing complexity and array of management approaches (Barkley, 1990). The concomitant understanding of ADHD has been marred by attempts to reduce the aetiology, conceptualization as well as management of this disorder of labyrinthine proportions, to a grossly simplistic level.

Although much has been written about ADHD, there appears to be a paucity of understanding about ADHD and its management. Despite the inclination of key trends toward increasing recognition of ADHD as a neurobehavioural disorder occurring in childhood, the precise aetiology of ADHD and medical management thereof has been a source of marked dissension. Problems relating to the neurological basis of the disorder and associated behaviour, as well as concerns relating to assessment and intervention procedures employed by different professionals have elicited criticism and spirited debate.

One reason for the plethora of research on ADHD is the sheer magnitude of the aforementioned problems. The proliferation of modifications to the conceptualisation of ADHD has essentially demanded substantial reformulation of the disorder (Barkley, 1994, 1997). Originally conceived as a disorder based on attentional deficits (Douglas, 1980, 1983), ADHD has developed into a disorder characterised by variance in terms of aetiology, symptomatology and management. In practical reality, researchers and practitioners are often faced with the daunting task of acceding to prevailing functional definitions of ADHD in order to effect interventions. The implications of these for researchers and practitioners engaging with clinical issues is significant as any reconceptualisation of ADHD necessitates an examination of *“that conceptualisation’s ability to actually provide the researcher and practitioner with increased leverage in understanding ADHD as a construct and in dealing with ADHD-like behaviour”* (Gumpel and Reid, 1998).

2.3 DEFINITION OF ADHD

ADHD has been accorded the status of being the most common neurobehavioural disorder of childhood. Although ADHD has a history of myriad definitions, operational definitions have been fairly sparse (Barkley, 1982). Numerous commonalities distilled from these definitions reveal the following as characteristic of ADHD: prominent age-appropriate levels of inattention,

overactivity, and impulsivity; the inability of the children to restrict their behaviour according to structural demands (self-regulation), relative to the same-age "normal" children; the onset of these problems in early childhood; the significant pervasiveness of these problems across several settings and/or caregivers; the general chronicity or persistence of these symptoms throughout development; and the inability to account for these behavioural symptoms throughout the course of development (Barkley, 1982, 1990; Mash & Terdal, 1988). Hence ADHD is not the direct result of mental retardation, severe language delay, neurological disease such as gross brain damage or epilepsy, deafness, blindness or severe psychopathology such as autism or schizophrenia (Mash & Terdal, 1988).

The most widely employed definition of ADHD is one, which is firmly entrenched in the medical model. According to the American Psychiatric Association (APA) (1987, 1994), ADHD comprises a heterogeneous group of children presumed to have developmentally inappropriate levels of inattention, impulsivity and restless behaviour. The definition attributed to ADHD became more lucid with the advent of the DSM-IV (APA, 1994). ADHD symptoms were subsequently characterized according to three specific subtypes: Predominantly Hyperactive-Impulsive, Predominantly Inattentive and Combined Type.

ADHD is not a static condition which confines a child so diagnosed within this category. While ADHD is of a chronic nature, with development characterized by a high degree of stability for most children (Campbell, Schleifer & Weiss, 1978), those located nearest to the peripheral areas may move into or out of the class over development as their individual scores fluctuate. Hence there is a fluidity of movement into and out of this category, which makes it all the more difficult to identify, diagnose and provide management, especially in the form of drug therapy. This may also account for the negative, confused and radically differing perceptions and attitudes that generally prevail amongst teachers and caregivers.

2.4 FEATURES OF ADHD

“There is no such thing as an ADHD child, only a child with ADHD.”

Lyon (1998)

Confusion is often engendered about which children have ADHD as people have diverse perceptions as to what ADHD means. Hence perceptions and attitudes associated with the prescription of Ritalin can range from absolute enthusiasm (Green & Chee, 1997; Klopper, 2000) to blatant abhorrence (Breggin, 1996; Block, 1997; Diller, 1999).

Distinguishing and essential features of ADHD are characterized by unrelenting patterns of sustained attention deficits, impulsivity and sometimes hyperactivity in children and adolescents (APA, 1994), with attention being a primary symptom of ADHD. Accordingly, the DSM-IV classifies the syndrome into three subtypes: the predominantly inattentive type, the predominantly hyperactive/impulsive, and the combined type which caters for those individuals who possess the full range of symptoms.

Individuals afflicted with ADHD may be inclined to exhibit many of the following symptoms in varying degrees: hyperactivity (excessively high energy levels); perpetual motion (constantly fidgets with hands and feet, inability to sit still, difficulty falling and / or staying asleep); lack of inhibition (talks excessively and engages in actions without considering consequences, often blurts out answers, has difficulty awaiting turns; impulsivity; inability to attend (discernible by decreased concentration and short attention span) (Barkley, 1990; Alloy et al, 1996; Shapiro, Du Paul & Bradley-Klug, 1998); distractibility (especially in the presence of extraneous stimuli); irritability; mood swings; nervousness; low frustration threshold; impatience and unpredictability; clumsiness; behavioural problems (such as aggression, verbal and / or physical abuse) and low self-esteem. The presence of all of these characteristics in an individual afflicted with

ADHD is indeed rare. The majority of these symptoms are present in either category, (inattention or hyperactivity), giving rise to ADD or ADHD. With physical and cognitive development, the degree of these symptoms becomes more pronounced than normal behaviour, that is, significantly more inattentive or hyperactive than peers of a similar age. The prescription of Ritalin is advocated primarily for the treatment of hyperactivity and attentional problems.

The constancy of symptoms also differs amongst children with ADHD, with some children exhibiting problem behaviours only at home or only at school, while demonstrating adequate adjustment in the other setting. This can create a dilemma for teachers and parents, as well as medical professionals, when the need to institute drug therapy arises. Children with these situational ADHD generally experience less severe difficulties and tend to have a better prognosis than children with pervasive ADHD, whose symptoms emerge in all settings (Alloy et al, 1996). Furthermore, although thinking styles and acting that represent elaborations of behavioural states constitute the hallmarks of ADHD (Barkley, 1990), a significant amount of variance across cognitive dimensions characterizes individuals with ADHD (Fletcher, Francis, Stuebing, Shaywitz, Shaywitz, Shankweiler, Katz & Morris, 1996). People with ADHD are characteristically disorganized, with clutter and disarray featuring prominently in their environment. Their thoughts may be fragmented and they usually appear "scatterbrained" and "different". They have differential attentional and inhibitory capacities (Rapport & Kelly, 1991), and may execute tasks poorly as a result of co-morbid deficits (Morris, 1996; Hale, Hoepfner, DeWitt, Coury, Ritacco & Trommer, 1998). As an intervention measure, Ritalin has proved to be indispensable (Green & Chee, 1997).

2.4.1 Attention

A survey of literature (Barkley, 1990; Green and Chee, 1997; Klopper, 2000; Levine, 2000) incorporating various theories and studies, highlights the

proliferation and diversity of theories pertaining to attention and the absence of a uniform and eclectic theory. Furthermore various tasks and measures contribute to the difficulty in integrating research results into a cohesive and unified unit, which could make possible and facilitate diagnosis, treatment, and management of individuals with Attention Deficit Disorder. In spite of these limitations, professionals are continuing to assess and treat individuals with ADD (Shulamit & Shlomo, 2000).

2.4.2 Hyperactivity

Identifiable characteristics of hyperactivity present in the form of excessive gross motor activity, extreme restlessness, difficulty sustaining on seat behavior, impulsivity and the tendency to rush headlong into things without prior thought, as forethought is clearly not a forte. Symptoms must be present in two or more settings (such as school and community), have an early age of onset less than seven years, have a chronic course, and cause impairment to the child's development (Connor, Barkley & Davis, 2000).

ADHD symptoms vary with age and may manifest themselves differently at different stages in the lifespan. In hyperactive individuals, excessive activity occurs and this is very conspicuous in children, especially younger children. The quality of their motor behaviour sets ADHD children apart from their contemporaries who are ordinarily overactive (Alloy et al, 1996). Research evidence indicates that hyperactive children are at an increased risk for negative outcomes in the spheres of psychological, social and family functioning (Gonzalez & Vergara, 2000) and that Ritalin could be employed successfully to prevent or mitigate these effects. In this regard clinical studies attest that ***“stimulants help the child focus, reflect and achieve academically, socially and behaviourally”*** (Green & Chee, 1997).

2.4.3 Impulsivity

Impulsivity is typified by an inability to wait one's turn, blurting or calling out answers inappropriately, and interrupting or intruding on others or violating the personal space of others reflect boundary-related behaviours. Children with ADHD are also prone to violate or disrespect physical, interpersonal and temporal boundaries. However, research has revealed that these behavioural styles are mutable and that behavioural cues can be utilized to modify these behaviours (Barkley, 1990). Much to their detriment, individuals with ADHD have a tendency to respond immediately to stimuli in the environment in their haste to accomplish their objectives, thereby failing to engage in critical thinking as well as neglecting to consider the consequences of their actions (Barkley, 1990; Alloy et al, 1996; Shapiro et al, 1998). Impulsivity acts as a great hindrance to the emotional, intellectual and social development of the ADHD individual as it exacerbates behavioural and learning problems, interferes with healthy psychological functioning and promotes social incompetence. Notwithstanding all of the aforementioned, it is important to acknowledge that ADHD sufferers may be intellectually advantaged, but may fail to perform in accordance with their intellectual potentials.

2.5 SCHOLASTIC UNDERACHIEVEMENT AND PRESCRIPTION OF RITALIN

Scholastically individuals with ADHD underachieve and this is exemplified in poor grades that are obtained. They tend to experience severe learning difficulties, which may be handicapping and/or disabling (Lerner et al, 1995; Kirk, Gallagher & Anastasiow, 1997). Controls of attention are frail and may be easily distressed by a diversity of influences. As such, attentional weaknesses can occur at any age, but may also ***“become resolved or compensated for at any point in life”*** (Levine, 1998). To this end Ritalin is prescribed to enhance attention and curb impulsivity and hyperactivity so as to promote on-task behaviour. It acts to

“enhance and normalise the inattentive child’s natural abilities” (Green & Chee, 1997).

Symptoms that have been observed in infants who were later diagnosed with ADHD in childhood include difficult behaviours characterized by intensity of demands, emotions and labour, restlessness, frequent fussiness, poor eye contact and sleeplessness. (Reichenberg-Ullman & Ullman, 1996). In terms of developmental significance, ADHD has been distinguished as a perceptible category of pre-school behaviour problem, which is linked to disorders that occur later, particularly when it coincides with other behaviour problems (Sonuga-Barke, 1995). The transition from childhood to adolescence is characterized by a decline in activity levels. Adolescents with ADHD typically are fidgety and exhibit restless drumming of fingers or tapping of feet. It is surmised that inattention decreases, but impulsivity is sustained and a poor prognosis is therefore offered. There is considerable doubt and uncertainty as to whether: these presenting symptoms reflect an extension of the fundamental symptoms into adulthood; what is evidenced is an adaptation of a primary condition or a result of having experienced a primary hyperactivity disorder; the symptoms are a continuation of a co-existing condition or the result of a co-occurring condition (Hill, 1998). This inevitably confounds drug therapy. Contextual demands and individual growth are important factors to consider here.

Research suggests that ADHD adolescents are prone to engaging in anti-social behavior and drug abuse. On the subjective dimension, research evidence indicates that these adolescents display emotionality, lack of clarity of thought, intolerance of boredom, impatience, disorganization, distractibility, procrastination, short tempers, underachievement and low and poor self-esteem (Barkley, 1995; Hill, 1998). The evolution of ADHD has augmented the understanding and recent acceptance of ADHD as an adult condition. It has also served to promote and enhance the understanding of the perplexing psychiatric problems associated with the disorder (Bedway & Tzelepis, 1998). Studies

pertaining to personality patterns in adult ADHD sufferers have revealed that adults with ADHD exhibit distinct clusters of personality. These adults have pessimistic, negative worldviews, steadfastly believing that they possess inadequate power over life events and that things will not work out for them, and they have a tendency to be rather self-centred (Bedway & Tzelepis, 1998). Support for the prescription of Ritalin has been provided by research (Anastopoulos & Barkley, 1990; Green & Chee, 1997), which exhort its effectiveness in ameliorating and even averting the aforementioned behavioural and related problems during the different developmental periods.

2.6 A LENS ON THE PAST

Lifelong efforts to understanding ADHD have necessitated shifts in thinking and focus so as to accommodate the different theoretical understandings of ADHD and the concomitant operationalising of these theories. Initially, ADHD was regarded as a disruptive behaviour disorder occurring in childhood. Subsequent paradigmatic shifts and new literary trends, reconceptualising ADHD, allude to inherited, enduring impairments of many cognitive functions essential for daily functioning (Barkley, 1990, 1994). Executive functions and working memory feature as prominent concepts in this new understanding. The accompanying changing views of ADHD have also influenced changes in terminology and management perspectives. Because of the different motivations attached to the differing views of ADHD, different attitudes toward the diagnosis and management of the disorder have surfaced.

2.6.1 EVOLUTIONARY VIEWS AND CONCEPTUALISATION OF ADHD

The proliferation of modifications to the conceptualization of ADHD, especially in the Diagnostic and Statistical Manual of Mental Disorders, has essentially demanded substantial reformulation of the disorder (Barkley, 1994, 1997). Originally regarded as a disorder based on brain damage and subsequently

attentional deficits (Douglas, 1980, 1983), various modifications to the terminology as well as the principal identifying criteria have been influenced by their utility value to the researchers and clinicians at the time, as ***“any new conceptualization of disability is only as relevant as its ability to positively affect the current state-of-the-art treatment of that disability”*** (Gumpel & Reid, 1998). This necessitates continuous dialogue among all stakeholders at all levels of interaction and intervention if management is going to be effective.

Many questions about ADHD and medical intervention remain unanswered. At best, the majority of ADHD sufferers and those in constant contact with them have had to contend with confusing views and perceptions of the disorder and its management. Undeniably a real condition, ADHD is a global problem as in every educational setting there are individuals with ADHD (Alloy et al, 1996). A few decades ago, in the absence of conclusive evidence, causes of ADHD were at best, guesses. It was suspected that the pattern of excess motor activity and short attention span were produced by brain damage, with certain types of brain infection being implicated in initiating restless motor activity (Strauss & Lehtinen, 1947; Clements, 1966). This perception of a neurological defect as a causative factor of ADHD became entrenched as many of the children who manifested this pattern also exhibited “soft” or ambiguous neurological signs, which could suggest brain damage, and a small percentage of them displayed definite signs of neurological impairment. Although on the strength of this evidence, this pattern of behaviour was attributed the label *“minimal brain dysfunction”* (MBD) in the Diagnostic and Statistical Manual of Mental Disorders, there was still a discernible void in terms of establishing exactly what the disorder was (Alloy et al, 1996). Subsequent research findings suggested diagnostic models relating to clusters of disruptive behaviours, specifically impulsivity and overactivity as typified by the initial term ‘hyperkinesis’, as being prominent in the disorder. Changing assumptions then postulated that attention deficits as well as hyperactivity were the source of academic difficulties in children categorized as having learning disabilities (Lerner et al, 1995; Kirk et al, 1997). Despite the

aforementioned changes, stimulant medications were prescribed with fervour from the late 1950's when Ritalin was introduced (Green & Chee, 1997).

Eventually, the syndrome was named hyperactivity in the light of the symptoms rather than the presumed cause associated with the disorder. In time researchers of the disorder began to feel that the short attention span was as essential as the hyperactivity. Accordingly the syndrome received its present name of Attention Deficit Hyperactivity Disorder, or ADHD. As in the past, there is a fervent move away from labelling disorders on the basis of their aetiologies in the absence of definitive causes. However, ironically, for the sake of convenience, especially to clinicians, attempts at labelling persist as they facilitate diagnostic categorization and the prescription of medication.

Barkley, a prominent scholar who has researched ADHD extensively, has provided a theoretical perspective that conceptualizes the symptoms of ADHD as being representative of a general inability to delay responding to the environment. The lack of management skills has been identified as a "core deficit" among those afflicted with ADHD. Inhibitory control, which is absolutely crucial to individuals to be able to self-manage or self-control behavioural responding, has been found to be deficient in children and adolescent ADHD sufferers (Barkley, 1994). This theoretical conceptualization has featured eminently in recent research into ADHD.

Although an exhaustive reformulation of the terminology and classification of ADHD has been undertaken, yet another theoretical metamorphosis in our theoretical conceptualization of this disorder looms over the clinical horizon (Barkley, 1994, 1997; Gumpel & Reid, 1998), as one United States doctor has indicated that **"ADHD will probably one day prove to be an umbrella term for a number of associated disorders"** (O'Connor, 1999: 6). Support for the aforementioned has been provided by Anita Worrall (cited in O'Connor, 1999), president of the South African Association for Learning and Educational

Difficulties. Worrall prefers to employ the term “*difficulty*”, which seemingly denotes a positive connotation, as opposed to the perceived negativity associated with ‘*disorder*.’ She expressly advocates the need to reconceptualise the problems associated with ADHD as difficulties, with demystification serving an indispensable role in the management of individuals with ADD and ADHD.

The need to re-examine the construct of ADHD and reformulate it, so that it may have greater applicability and validation, is aptly mirrored by Levine’s statement that **“there is a strong possibility that the term ‘ADHD’ or ‘ADD’ will be considered something of a historical cul-de-sac in the year 2020”** (Levine, 1998). ADHD is truly an enigmatic condition as there is still much about it that eludes our understanding. Levine captures this in his reference to ADHD as **“that disorder that they called everyone who wasn’t functioning well during the 1990’s”** (Levine, 1998).

2.7 EPIDEMIOLOGY

2.7.1 INCIDENCE

The true incidence of ADHD cannot be accurately determined since it lacks precise definition and measurement. On the basis of this, Kohn (cited in Barkley, 1990) challenges the existence of ADHD as a recognisable disorder. He also questions the validity of ADHD as a disorder as an increasing number of children demonstrate behaviours characteristic of ADHD. This is countered by Barkley (1990), who highlights the difficulty associated with determining the prevalence rates for any psychiatric disorder. He provides a compelling argument, indicating that the manner in which ADHD is defined, the population under scrutiny, the location and the degree of consensus among teachers, parents and professionals influence prevalence rates. It is estimated that approximately 10 to 20% of the school-age population of children have ADHD, with attentional deficits being predominant (Shaywitz & Shaywitz, 1991). Recent research indicates that

ADHD is a prominent childhood disorder that is commonly diagnosed, to the extent that it accounts for half of all child referrals to outpatient mental health clinics (Barkley, 1995; Lerner et al, 1995). Despite the aforementioned, the prescription of Ritalin has been baneful.

2.7.2 PREVALENCE

Differing prevalence rates, which have been documented in ADHD literature, can be attributed to inconsistent conceptualisations of ADHD, the populations sampled, demographic considerations, the degree of consensus among parents, teachers and professionals (Barkley, 1990), as well as contrasting treatment views and attitudes.

Although research suggests that the prevalence rate is equal for boys and girls, gender issues are especially pertinent as the frequency of an ADHD diagnosis and prescription of medication may persist being 'skewed' to those children whose disabilities or difficulties are apparent and impact with immediacy upon other children and their teachers. More boys than girls are diagnosed with ADHD, as there is a greater likelihood of boys being identified (Shaywitz, Fletcher & Shaywitz, 1995), thereby making ADHD a common diagnosis, albeit a controversial one (Alloy et al, 1996). Approximately 5-9 times more boys than girls are referred for ADHD, although epidemiological studies indicate a figure of 3-1 boys than girls. The discrepancy in the identification and referral of boys and girls may be accounted for by the following: girls have an increased tendency to experience attentional difficulties without the hyperactive or acting-out behaviour, and may, consequently, not be identified as experiencing an ADHD problem (Barkley, 1990). Developmental immaturity or ADD/ADHD in boys is extremely common, with figures ranging from 5% to 20%. Hence, ADHD is most discernible in males and appears to affect a significant part of the childhood population as it is possibly the commonest medical problem present in school-age children. It is estimated that worldwide the average incidence is 4% with all

ethnic groups being affected (Klopper, 2000). Some professionals believe that the term ADHD is too readily applied to children whom parents and teachers have difficulty controlling or regulating their behaviour and who appear to offer the potential for the prescription of Ritalin.

With reference to first world English speaking countries, the lowest reported incidence of ADHD is in Britain, with figures ranging from 0.5% to 1.5%, whereas it is 6% in the United States of America (Klopper, 2000). In the United Kingdom, where parents, teachers and other relevant professionals are in consensus regarding the ADHD diagnosis, approximately 0.5%, which represents one in every two hundred children, satisfy the criteria for Hyperkinetic Disorder (ICD-10) or were diagnosed with ADHD (Taylor, 1995), with an estimated 1 in 2000 of the total childhood population being diagnosed. Other studies conducted in the United Kingdom suggest 1.5% of children are identified as ADHD. Considerable cultural variation is a contributory factor to the varying diagnosis and prevalence rates of ADHD. In the United Kingdom, the diagnosis of emotional behavioural disorder is more common than ADHD, whereas in the United States children are more likely to be diagnosed as ADHD (Lyon, 1998). These figures are undeniably influenced by perceptions relating to the prescription of psychotropic medication.

In comparison, according to studies (Barkley, 1990; Connor et al, 2000) it is estimated that the prevalence of ADHD in school-aged children is 3-5% in the United States of America and Australia (Taylor, 1995), with adolescent and adult ADHD receiving increased attention. Studies effected in the US document 80% of this population being comprised of boys (Barkley, 1990), with 60% of them displaying related hyperactivity (Hinshaw, 1994b). A study commissioned in 1998 by the Journal of the American Medical Association revealed that ADD/ADHD affects 5% to 6% of the population (O'Connor, 1999). However, higher figures have been reported. According to Goldstein and Goldstein (1990) approximately 3-8% of children are diagnosed with ADHD in the United States,

and the majority of them receive drug therapy in the form of stimulant medication, the most popular of which is Ritalin. Despite this marked prevalence, the diagnosis and management of ADHD remain controversial.

2.7.3 AETIOLOGY

“At present, the exact pathogenesis of ADHD remains unknown.”

(Hynd, Hern, Novey, Eliopoulos, Marshall, Gonzalez & Voeller, 1993: 346).

While it is generally accepted that ADHD constitutes a common neuropsychiatric syndrome, affecting individuals from infancy into adulthood, its aetiology remains somewhat doubtful. Several causes for ADHD have been proposed, yet no single identifiable cause or set of causes can be attributed to the aetiology of ADHD (Hinshaw, 1994). Multifactorial influences in the biological, environmental and psychological domains shape the development of this disorder (Taylor, 1994; Barkley, 1995; Pennington & Ozonoff, 1996; Green & Chee, 1997) with social factors also playing a significant role. Following from this, a multicomponent management model appears to be relevant and appropriate. Brown (1998b) refers to ADHD as a “cluster of cognitive impairments “ in which hyperactive-impulsive behaviour may be present or absent. The remarkable range of psychophysiological research during the past few decades has provided novel and salient clues to the aetiologies and mechanisms of ADHD. Recent advances in medical technology, which have uncovered neurological underpinnings in ADHD, have served to lend credence to the neurobiological, neurochemical and neurotransmitter influences associated with the etiology of ADHD and the execution of treatment as in the form of Ritalin.

Neuroimaging studies of children who have ADD have identified neurochemical and neuroanatomical abnormalities. Brain scanning by Magnetic Resonance Imaging (MRI) has shown a distinct difference in the size of the brains of boys with ADD, with the right side of the brain tending to be smaller in boys with ADD,

especially with regard to the pre-frontal cortex, caudate nucleus and globus pallidus. An abnormal increase of dopamine transporters in the brains of children with ADD as compared to other children has also been detected. Notably, this represents the inaugural finding of an objective biological marker of ADD (Klopper, 2000), thereby also providing justification for the use of drug therapy.

2.7.3.1 Neurobiological origin

Neurobiological conditions have been singled out as the more prominent causes for the clinical syndrome of ADHD, as has been suggested by British and American research into ADHD which vindicate the role of neurobiological factors in the etiology of ADHD (O'Connor, 1999) as well as the management thereof. ADHD has been characterized as a polytypic syndrome arising from multiple biological bases which are congruent with neurological dysfunction in one or more of the three semi-autonomous attention systems in the brain: the anterior, posterior and vigilance attention networks. Hence the marked variance in ADHD symptomatology can be vindicated by the diversification in the neuroanatomical areas associated with ADHD (Swanson, Posner & Cantwell, cited in Jansen & Savitz, 2000). Accordingly, recent theories that have been put forward postulate that as a consequence of a malfunctioning prefrontal cortex, certain children do not succeed in developing adequate inhibition of the motor control system and other systems as the prefrontal cortex serves as the seat of judgement, planning and decision-making.

Children with ADHD experience difficulty organizing, regulating (Barkley, 1996), and evaluating their behaviour – typical executive function deficits related to frontal lobe dysfunction (Luria, 1973). Findings of recent studies suggest that children with ADHD have frontal lobe abnormalities (Hynd, Hern, Voeller & Marshall, 1991), including asymmetric dysmorphic conditions (Hynd, Semrud-Clikeman, Lorys, Novey & Eliopoulos, 1990), abnormal electrical activity (Amen, Paldi & Thisted, 1993; Taylor, Voros, Logan & Malone, 1993; Novak, Solanto &

Abikoff, 1995), and lowered cerebral blood flow (Lou, Henriksen, Bruhn, Borner & Nielsen, 1989), particularly deficiencies in the right frontal lobe, prefrontal cortex, or frontal cortical-subcortical systems are often implicated (Schaughency & Hynd, 1989; Benson, 1991; Heilman, Voeller & Nadeau, 1991; Malone, Kershner & Swanson, 1994). While these findings signal frontal involvement in ADHD, it is difficult to determine the relationship between attention and executive function, especially when the latter is considered to be synonymous with frontal lobe functioning (Denckla, 1996).

2.7.3.1.1 Impaired executive function

Barkley (1994) maintains that ADHD is primarily an inability to inhibit responses, as well as an inability to ignore interference. Self-control, which is essential in effectual task approach, is facilitated by the development of efficacious executive functions which are paramount in promoting appropriate goal-setting, motivation, the evaluation of progress, judging outcomes and countering interfering thoughts and impulses. Executive functions constituted of working memory, regulation of emotions, internalized speech, motivation and state of arousal, and reconstitution are located in the pre-frontal region of the brain. ADHD sufferers have been identified as experiencing impaired functioning in all these areas. Although this theory has evoked considerable interest and attention there is, as yet, no confirmation of this theory and presently no biological test for ADHD exists (Donovan, 2000).

Despite the lack of the aforementioned, theories pertaining to neurological and genetic bases for ADHD are commonly alluded to in attempts to “justify the present regimen of drugs and environmental accommodations” characterized by special arrangements in schools (Donovan, 2000) as well as other management options. An understanding of ADHD as a neurobiological disorder serves to inform management decisions, especially those relating to the prescription of Ritalin.

Impaired executive functions, often referred to as executive function disorder, and problems related to motor control are characterized as behavioural consequences of hypofunctioning dopamine systems (Barkley, 1990; Levy, 1991). Cognitive impulsiveness results from frontal cortical hypofunctioning, which arises from a hypofunctioning meso-cortical dopamine system. Deficient sustained attention, hyperactivity and motor impulsiveness are initiated by a hypofunctioning meso-limbic dopamine system and poor motor control is produced by a hypofunctioning nigro-striatal dopamine system. These dopaminergic systems may be affected in varying degrees in individuals with ADHD, thereby suggesting unequal dysfunction (Alessi, cited in Zubieta & Alessi, 1993). Since these systems function interrelatedly and are linked to other neurotransmitter and neuromodulator systems, dysfunction or an imbalance in a particular system will impact on the effective functioning of the other systems. Sagvolden (2000) indicates that dopamine hypofunctioning may be influenced by a genetic determinant or it may be induced by environmental factors such as pollutants or drugs of abuse. This explains the differing prevalence rates of ADHD in the various parts of the world: similarities in the prevalence of genetically – based ADHD may be present, but the level of organic environmental pollutants may differ. This could also account for the diverse reactions to the prescription and use of Ritalin and the attitudes that influence management and compliance decisions.

2.7.3.1.2 Neurotransmitter Interactions

“This disorder is believed to have a neurological origin caused by a dysfunction of certain neurotransmitters within the brain.”

(Barkley, 1995; Lerner, Lowenthal & Lerner, 1995).

A prominent theoretical perspective attributes ADHD to a dysfunction of certain neurotransmitters (Barkley, 1995; Lerner et al, 1995). A major focus of research

has been the role of the neurotransmitter dopamine, which is influential in relaying messages from one nerve cell or neuron to another. Hypo-functioning dopamine levels are believed to be a prominent cause of ADHD symptoms (Levy, 1991; Zubieta & Alessi, 1993). An alteration in the brain's capacity to encode or receive messages transported by dopamine has been identified. Dopamine has also been implicated in neuronal activity involved in emotion and movement. Hence, this perspective posits ADD and ADHD as neurobiological conditions, which are characterized by central nervous system dysfunction and are often genetically determined (O'Connor, 1999). Ritalin is believed to enhance brain functioning by stimulating the neural synapses, the brain stem arousal system, the cortex and those portions involved in the transmission of information (Barkley et al, 1991). Reports of successful intervention with Ritalin indicate that children with ADHD respond favourably to stimulant medication (Hynd et al, 1993). In this vein, adherents to the medical model view the prescription of Ritalin as being a viable form of management for ADHD.

Other neurotransmitters have also been implicated in ADHD. Dysfunctional catecholamine interactions are hypothesized to result in attentional problems (Pliszka, McCracken & Maas, 1996). Problems with serotonin modulation may also give rise to attention and learning deficits (Zubieta & Alessi, 1993). Attention problems have been attributed to complex neurotransmitter interactions (Malone et al, 1994) and multiple brain systems (Heilman, Watson, Valenstein & Damasio, 1983; Mesulam, 1987; Posner & Peterson, 1990; Mirsky, 1996). The prevalence of attention problems in several disorders is suggestive of separate neuroanatomical or neurochemical systems being differently affected (Levy, 1993).

2.7.3.1.3 Dysfunction of arousal-motor regulatory system

Evidence from clinical-psychometric studies of children with ADHD document deficits in attention, response inhibition, and motor regulation. These findings,

which appear to be plausible, have been adequately persuasive to lead some researchers to believe that children afflicted with ADHD experience a dysfunction of the arousal-motor regulatory systems associated with the frontal-striatal regions of the brain (Hynd et al, 1993).

Support for the neurological component in ADHD is provided by Rothenberger (1990), who cites disturbances in the basal ganglia as causative factors in children who have hyperactivity and deficits of motor control in the primary cortex and frontal lobe. These children appear to have a deficit of motor control in the primary cortex and frontal lobe. There appears to be a lack of regulation of the neuronal networks responsible for voluntary motion with selective activation and sufficient precision. It has also been proposed that this may be greatly applicable to "spontaneous" movements, which are influenced by voluntary control. These hyperactive children experience difficulties with regard to focusing their frontal brain activity. As a medication that reportedly enhances cortical arousal (Barkley et al, 1991), Ritalin is viewed by certain medical practitioners, parents and teachers as a suitable mode of treatment for ADHD.

2.7.3.1.4 Cerebral lesions

Although the development of ADHD is often attributed to genetic factors, cerebral lesions are frequently implicated in the etiology of the disorder. The available neuropsychological data proposes prematurity and deficient oxygenation of the immature brain as influential factors (Lou, cited in Lou, Henriksen & Bruhn, 1990). Affected individuals present as distractible, impulsive and hyperactive with impulsiveness appearing as the focal disturbance, constituting the crux of ADHD. This posits Ritalin as a foregone mode of intervention.

2.7.3.1.5 Gut-brain connection and food intolerance

2.7.3.1.5.1 Biochemical factors

It has been suggested that children with ADHD possess a tendency to be allergic or have food intolerances, hence the resurgence in research into diet-related interventions. Research and theory in support of the gut-brain connection and ADHD has been presented by Shattock, Waring, Reichett and Owens (cited in Smit, 2000) whose findings indicate the involvement of gluten and casein, especially, in opioid suppression in the central nervous system and as agents that may be causing neural pruning in individuals with ADHD. Increased peptide (half digested proteins indicating protein mal-digestion) levels were present in many first-degree relatives of ADHD individuals, implicating a genetic link.

2.7.3.1.6 Genetic relatedness

The belief that ADHD is a neurological disorder, with an underlying genetic component cannot be discounted as research into ADHD also points to genetic factors as being important aetiologically. Outcomes derived from family studies provide credible support for gender (Barkley, Fischer, Edelbrock & Smallish, 1990), psychiatric co-morbidity (Biederman, Keenan & Tsuang, 1991) and maternal ADHD (Gelfand & Teti, 1990; Faraone, Chen, Warburton, Biederman, Milberger & Tsuang, 1995) as influential determinants in predisposing children to ADHD (Faraone et al, 1995). Relatives of children with ADHD were found to be at increased risk for the disorder. The co-existence of ADHD with developmental learning disorders that are often associated with other psychiatric disturbance in the child and his or her parents have provided the impetus for studies that suggest a familial-genetic aetiology (Biederman et al, 1991; Hynd et al, 1993; Stewart, DeBlois & Cummings, cited in Faraone et al, 1995: 335; Lahey, Piacentini, McBurnett, Stone, Hartdagen & Hynd, cited in Faraone et al, 1995: 335). Results from half-sibling, twin, adoption and segregation studies have

implicated the involvement of genes in familial ADHD (Faraone & Biederman, cited in Faraone, et al, 1995: 334). Parental ADHD and co-morbidity represent significant factors associated with family conflict and instability, which both serve to undoubtedly stress children and place intense demands on their adaptive capacity. As evidenced by the compelling research evidence presented, as well as substantive information from other studies (Gill, Hawi, Fitzgerald, Daly & Heron, 1997), ADHD appears to have a strong degree of genetic relatedness.

With regard to gender differences, ADHD is two to nine times more prevalent among boys compared with girls (Szatmari, 1982; Barkley, 1990). These gender differences may be useful indicators of the heterogeneity of ADHD. The pronounced difference in prevalence rates has been attributed to the theoretical assumption that in the “familial dose” model of gender effects for ADHD, females need a greater “dose” of familial aetiological factors to manifest the condition. Hence, this would necessitate having two copies of the pathogenic gene in females and one in males, in the event of ADHD being a single gene disorder (Szatmari, 1982).

2.7.3.2 Other variables

Unlike conventional theories, which focus on and address the cognitive and emotional difficulties of ADD, researchers exploring Central Auditory Processing Disorder (CAPD) have questioned the role of this disorder in ADD, whether CAPD features as cause or effect in ADD. ADD has also been attributed to sensory processing (modulation) problems, which are perceived as fundamental to attention problems, language and learning deficits (Seymour, 2000). Furthermore, contemporary research findings expound the associations between ADHD symptoms and severe cognitive impairments such as schizophrenia, environmental stressors and ADHD symptoms and ADHD symptoms and estrogen deficiencies (Brown, 1998b).

Cognitions bound to all of the aforementioned factors that may predispose individuals to ADHD serve to strengthen the notion that teachers' and caregivers' perceptions and attitudes are very much a function of the extent of their knowledge of ADHD, their level of engagement in the management decision making process and the resources and skills that they possess. Despite acknowledgement of ADHD as a neurologically based medical problem, the neurobiological basis of ADHD remains poorly understood, with perceptions and attitudes toward management options being equivocal.

Despite the plethora of clinically documented research on ADHD, researchers are still in disagreement about the etiology of ADHD, as well as the existence of the condition. Cynicism and diffidence crept in with a sense of incredulity as ADD was alluded to as "***the diagnosis without a disease***" (Serfontein, 1994: 2). Yet another perspective raised questions about the clinical justification for ADHD. Bernstein (cited in O'Connor & Garson, 1999) claims that numerous children are "***mistakenly slapped with the diagnosis***" by "***stressed-out teachers***" who have difficulty coping with conventional playfulness and naughtiness. She ascribes blame to uncompromising ideas about developmental milestones and the manner in which children are expected to perform in the classroom for the "***overdiagnosis***" of ADD and ADHD.

2.8 CULTURAL FACTORS

The enhanced awareness and knowledge of ADHD which has brought with it greater identification and diagnosis of children with this disorder has raised considerable question as to whether ADHD and the medication thereof is a 20th century phenomenon. Inability to cope with frenzied modern lifestyles, stressors relating to social and environmental demands and dysfunctional families have been considered to be instrumental in precipitating unacceptable or deviant behaviour in children considered to have ADHD. Allied to this would be the

perception that the prescription of Ritalin would serve to contain or counter unacceptable behaviours, thereby promoting the utility value of Ritalin.

2.9 SOCIAL ADJUSTMENT

Social adjustment has been a cause for concern for teachers and caregivers. Although some individuals with ADHD function relatively well socially, the majority may show poor social adjustment (Green & Chee, 1997; Goldstein, 1998; Jordan, 2001) and experience significant difficulty mediating the demands imposed by social conventions as well as interactions at school, work and in the home. In the home and school contexts, children with ADHD are prone to experiencing difficulty conforming to routines and parental and teacher expectations.

Research findings have revealed that children who have the combined type of ADHD have an increased likelihood than the other two types to have difficulties with interacting with other children, to engage in anti-social behaviour, and to be placed in special education classes (Biederman, Newcorn & Sprich, 1991). Although ADHD impacts significantly on the functioning of those afflicted, within the clinical and research frameworks of ADHD and ADD, the cognitive, emotional and social aspects appear to be overlooked as these appear to be more difficult and exacting to manage in terms of financial and human resources. Thus, drug therapy in the form of Ritalin may present as a viable option for clinicians, as well as caregivers and teachers. However the clinically unjustified use of Ritalin can give rise to marred and erroneous perceptions of Ritalin prescription as evidenced by the researcher in various educational contexts.

2.10 SOCIAL IMPAIRMENTS

Research indicates that the presence of psychiatric conditions co-morbid with the ADHD aggravates social impairments, which may manifest as acute anxiety,

extreme shyness or social phobia (Brown, 1998b). The association of ADHD and Pervasive Developmental Disorder produces profound and debilitating social impairments evident in the severe difficulties to interact reciprocally and to empathise (Brown, 1998b; Jordan, 2001). Contrary to popular belief, children with ADHD are not obstreperous and undisciplined. Severe Oppositional Defiant Disorder or Conduct Disorder, which can exist as co-morbid conditions, are responsible for deviant and antisocial behaviours (Green & Chee, 1997).

2.11 CO-MORBIDITY AND DISORDERS THAT MIMIC ADHD

“The overlap between ADHD and other disorders of childhood is a complex area that has received a great deal of attention.”

(Gumpel & Reid, 1998).

ADHD is a significantly complex, puzzling and challenging condition whose complexity is heightened when co-morbid conditions exist as these complicate management, especially medication or drug therapy.

2.11.1 Medical disorders

Co-morbidity refers to the occurrence of another disorder with ADHD. The presence of medical disorders in children with ADHD could affect either the diagnosis or treatment of ADHD, or both. Medical conditions such as cardiac problems, asthma, hypertension and liver abnormality are some of the disorders that complicate diagnosis and treatment of ADHD (Levine, 2000). Co-occurring disorders affecting cognitive functioning may be present as epilepsy, mental retardation or Tourette's syndrome. ADHD children younger than the standard, which is six years or older than twelve years, present a challenge in terms of diagnosis and treatment (Goldstein, 1998c).

2.11.2 Learning disabilities

A significant relationship has been found between learning disabilities and ADHD (Barkley, 1990; Cantwell & Baker, 1991). According to research (Shaywitz, Fletcher & Shaywitz, 1994; Lerner et al, 1995) approximately 25 to 40 percent of children with learning disabilities have co-existing attention deficit disorders. Approximately 20-30% of ADHD learners have co-existing learning disabilities which impact on successful school performance (Goldstein, 1990).

2.11.3 Psychiatric symptoms

Research statistics indicate that in ADHD sufferers Conduct Disorders co-occur in more than 30% of children and 50% of adolescents, with emotional symptoms manifesting in children and emotional disorder presenting in 20% of adolescents (Bailey, 1998). Results of cross-sectional, retrospective, and follow-up studies reveal that children with ADHD have an increased likelihood for acquiring other psychiatric symptoms and disorders in childhood, adolescence and adulthood (Biederman, cited in Vogel, 2000). Since a high incidence of co-morbidity characterizes ADHD, other disorders are often mistaken for ADHD and this often complicates medical management. Furthermore, the symptoms of ADHD may mimic other disorders, thus complicating or contributing to the misdiagnosis of the disorder. Disorders which may be frequently mistaken for ADHD include oppositional defiant disorder, mood disorders, adjustment deficits, anxiety disorders including post-traumatic stress disorder (Goldstein, 1990), panic attacks and obsessive compulsive behaviours, sensory deficits, mild mental retardation and pervasive developmental disorders. Symptoms congruous with sleep disorders, social skills deficits and aggression have been identified as co-occurring problems. Co-morbidity of affect, in the form of depression, has been documented in ADHD literature (Goldstein, 1990).

Although ADHD and post-traumatic stress disorder are two distinct disorders, many of the symptoms associated with ADHD are also relevant to post-traumatic

stress disorder and may confound diagnosis, treatment and management. In the event of co-morbid disorders, the effectiveness of stimulant medication may be diminished or even contraindicated as in bipolar disorder and Tourette's syndrome. Antidepressants may function effectively for ADHD when other disorders such as anxiety or depression are present.

2.12 ADHD AND MEDICATION: CONTROVERSIAL ISSUES

"Attention deficit disorder does not reflect children's attention deficits but our lack of attention to their needs."

(Breggin, 1996)

The nature, identification and medical management of ADHD have long been the focus in educational psychology, while simultaneously serving as a bone of contention among caregivers, educators and clinicians. Despite the availability of established criteria for the identification of the disorder, the complexity of the disorder, multiple aetiologies, diverse management and the difficulty in effecting a definite diagnosis have remained controversial issues (Shachar, 1991; Hinshaw, 1994b; Green & Chee, 1997). A focal point of dissension has been the prescription of medication in the treatment of the condition. As emphasised by Breggin (1996), the needs of children appear to be neglected in the quest for symptomatic and rapid relief, as provided by Ritalin, of a 'disorder' that may be considered by some as quite questionable in terms of its very essence.

"In fact, there is no medical, neurological or psychiatric justification for the ADD diagnosis."

(Breggin, 1996).

The diagnosis of ADHD, which has been contentious despite the existence of the DSM-IV and its precursors, has a predictable effect on the prescription of Ritalin. According to O'Connor (1999), ADD and ADHD have gained prominence in terms of the prescription of Ritalin in the United States as

“ADD and ADHD are big business, medically speaking.” Furthermore, in the United Kingdom, there has been a marked increase in interest and attention as regards ADHD (Barkley, 1990; Anastopolous, Baridey & Shelton, 1994; Taylor, 1994; Cooper & Ideus, 1995b). Sceptics of the existence of the disorder claim that **“ADHD is a total 100% fraud”**, attributing the blame for a culture of **“disorders”** to the **“cult”** of child psychiatry (O’Connor, 1999) and a readiness to prescribe Ritalin. Contrary views have proposed that the ‘disorder’ referred to as ADD has been evidenced for ages but that the incessant demands of modern schooling and an unrelenting society, in conjunction with modern scientific medical discoveries are liable for exposing this “disorder.”

The assumption by many physicians that a single successful trial of medication is adequate for making a diagnosis of ADHD has been met with disdain by some researchers and professionals who believe that primary care physicians are not always suitably positioned to monitor the effects of medication. The American Academy of Child and Adolescent Psychiatry (AACAP) (1997), in its recommendations for psychiatrists, expresses the need for medication monitoring to include multiple outcome measures and to rely on information from both parents and teachers. The collaboration between physicians and psychologists is perceived as an opportunity to determine the effectiveness of medication. School psychologists are in a pivotal position to provide continued monitoring of various titrations of medication in the school context to complement clinic-based trials. However, there is a marked paucity of literature, both nationally and internationally, pertaining to the involvement of teachers, caregivers and school psychologists in the management of ADHD.

Medication management focusing on titration procedures based exclusively on behaviour ratings by parents and teachers have been proposed (Greenhill, Abikoff, Arnol, Cantwell, Conners, Elliot, Hechtman, Hinshaw, Hoza, Jensen, March, Newcorn, Pelham, Severe, Swanson, Vitiello & Wells, 1996). However, past research (Barkley, 1990; Rapport, 1992) has shown that cognitive measures

provide salient information. This is of importance not only to children who might benefit from receiving the proper dosages of medication that will enhance and maximize both cognitive and social functioning (Fiorello & Hyman, 1998), but to those who engage with these children as well.

2.13 THE SOUTH AFRICAN CONTEXT

Increasing attention and concern has focused predominantly on the treatment of ADHD, with widespread media coverage being devoted to the prescription and use of methylphenidate (Ritalin) usually as a first line of treatment in children with ADHD.

The plethora of information focusing on the negative aspects and effects of ADHD and medication management has undoubtedly eclipsed the positive elements of individuals with ADHD and the favourable influence of Ritalin (Moodley, 2000; Klopper, 2000). Contrary to widely held beliefs, many ADHD sufferers are intellectually normal and keen and intent on pleasing others. However, their sincerity and good intentions are thwarted by the condition they experience and mismanagement of their difficulties.

2.14 ASSESSMENT

“Assessment of ADHD has long been a contentious issue.”

(Gumpel & Reid, 1998).

Proper assessment of ADHD is integral to informing and effecting decisions relating to the prescription of Ritalin. The difficulty in assessing ADHD is evident in the use of a psychiatric classification system, which seeks to attribute pathological status to behaviourally displayed symptoms. Operating in the context of the medical model, this conceptualization of ADHD places it in the

realm of organic determinants, to the exclusion of other factors, which may also impact substantially on the etiology and perpetuation of ADHD behaviours.

Although numerous diagnostic instruments are available for childhood ADHD, the DSM-IV criteria are frequently used to assess and diagnose ADHD. The diagnostic and management processes of ADHD are dependent on proper assessment and must be tailored to suit the needs of each ADHD sufferer as those afflicted with ADHD have diverse backgrounds, strengths, shortcomings and needs (British Psychological Society, 1996). Hence assessment should be suited to their personal profiles so as to facilitate relevant interventions.

Assessment serves multiple purposes, in that it informs and influences school placement decisions, eligibility for special services, interventions and management approaches. Conventionally, behavioural assessment techniques are employed. In the school setting, teacher-rating scales, direct observation methods and peer rating scales are usually employed. The *Child Behaviour Checklist for Ages 4-16* (Achenbach, 1993) and the *Child Behaviour Checklist for Ages 2-3* (Achenbach & Edelbrock, 1986) are often used. The *Conners Rating Scales*, which are available in the parent and teacher rating versions, are commonly used to measure hyperactivity when drug therapy has been instituted.

Evaluating the overt behavioural manifestations of ADHD, which limit availability for learning (Silver, 1992), could be more valuable than assessing underlying cognitive deficits (Barkley, 1994) as children with ADHD rarely display uniform cognitive impairments (Halperin, Gittleman, Klein & Rudel, 1984). Through direct observation and the experimental analysis of overt behaviour (Hoza, Pelham & Szykula, 1991; DuPaul & Barkley, 1993), the use of objective behavioural measures and specific decision rules (Greenhill et al., 1996), as well as systematic exploration of dose and behaviour treatment interactions (Hoza, Pelham, Sams & Carlson, 1992; Pelham, 1989; Rapport, 1992), clinicians can successfully manage the behaviour problems associated with ADHD (Hale et al, 1998)

A comprehensive psycho-educational assessment allows for evaluations in the psychological, social and environmental domains of functioning and as such allows for multi-modal forms of assessment. Assessment and treatment are wide-ranging and endeavour to foster normal development through reduction of core symptoms of inattentiveness, impulsivity and hyperactivity, prevention and treatment of conduct disorder, promoting academic learning, promoting social learning and improving social adjustment, improving self-esteem, relief of family distress and guilt, and advocacy for the child (Bailey, 1998).

2.15 DIAGNOSIS

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

(Green & Chee, 1997)

Dissension about what constitutes ADHD, the diagnosis and the management thereof has been endemic. At the heart of the aforementioned are perceptions and attitudes relating to the therapeutic management of ADHD, which represent the core considerations in this study.

Diagnosis of ADHD is complex and appropriate diagnosis is significantly related to the degree of involvement of caregivers, teachers and paraprofessionals. Diagnostic confusion has been created by the ostensible differences in the prevalence rates of ADHD. Parents and practitioners are especially vulnerable to dubious diagnoses and fad treatments. As evidenced by the researcher and research outcomes, most parents have a superficial understanding of the knowledge and issues involved in the appropriate management of ADHD. Intense feelings of denial and overwhelming helplessness brought on by a diagnosis of disability undoubtedly hamper the efficacious provision of medical treatment and other management approaches as parents grapple with the acceptance of the diagnosis. Differing perceptions of teachers, caregivers,

medical and paramedical professionals relating to the underdiagnosis and overdiagnosis of ADHD undoubtedly influence prescription decisions. Green and Chee (1997) express caution about falling into the trap of overdiagnosis and undertreatment. Divergent and conflicting treatment preferences and approaches also serve to delay appropriate intervention and progress

Generally, physicians effect a diagnosis of ADHD on the basis of physical interviews and physical examination (Leung, Robson, Fagan & Lim, 1994). Children referred for ADHD require evaluations with extensive assessment protocols and exhaustive testing under the auspices of a speciality clinic, considering the complexity of the condition. However, these evaluations cannot be successful without cross-disciplinary co-operation and integrative thinking. It seems to be relatively less difficult to identify those children who consistently exhibit ADHD type symptoms of impulsiveness and inattention from an early age and across most of their experiences (Gordon, 1998).

Practitioners commonly employ DSM-IV criteria to effect a diagnosis of ADHD. They determine whether the hallmark characteristics of inattention, impulsivity and frequent motor overactivity are of sufficient frequency and severity across settings to warrant a diagnosis. In primary care settings, physicians are in a position to treat many children with ADHD by obtaining a comprehensive clinical history, conducting thorough examinations, consulting DSM-IV criteria, and administering behaviour rating scales (Waldrop, 1994; Coury, 1995).

While there has been increased identification and diagnosis of ADHD as a consequence of increased mental health, educational and community knowledge about symptomatology and difficulties associated with ADHD, a salient number of ADHD sufferers remain underdiagnosed or misdiagnosed. According to Weiss and Hechtman (1993), approximately 50% of children diagnosed with hyperactivity outgrow their symptoms while the rest continue to be disabled to a varying extent by symptoms that persist into adulthood.

As a syndrome of disturbed behaviour manifesting itself in childhood (Gillberg, 1995), ADHD calls for professional attention, on entry of learners to school, when they experience difficulty conforming to the demands of the structured learning environment. However, despite manifestation of ADHD symptoms, research suggests wide-ranging consensus that the syndrome cannot be identified in infancy or early childhood (Campbell, 1985; Barkley, 1990; Loeber & Lahey, cited in Lahey & Carlson, 1991) thereby complicating medical management.

2.15.1 Timely identification and diagnosis of ADHD

The timely identification of ADHD is crucial to the application of proper diagnostic procedures in order that appropriate management may be established. However, it is problematic and extremely early to diagnose ADHD in infants (Reichenberg-Ullman & Ullman, 1996). Studies have shown that early diagnosis and medical management serve as ameliorative factors in the decline associated with social adjustment, emotional lability and stability, academic performance, and personal development. Untreated ADHD can foster chronic frustration and stress, social isolation, guilt, a climate of blaming, frozen roles and polarised parenting (Klopper, 2000). These factors can sway treatment decisions in favour of the prescription of Ritalin.

2.15.2 Difficulty with diagnosis

Determining whether children referred with attention difficulties warrant a diagnosis of ADHD remains problematic (Shelton & Barkley, 1995) and controversial (Blondis, 1991) as for the most widely medicated childhood "*condition*" - ADHD - there is no current, failsafe and validated diagnostic test (Reichenberg-Ullman & Ullman, 1996; Huffington, 1998; Tennant, 1999). The diagnosis remains predominantly a behavioural one as no performance measure uniformly differentiates children with ADHD (Buttross, 1998). Unlike various other syndromes there is no laboratory test or physical examination that confirms

the ADHD diagnosis. Although the Conners' Rating Scale is used by some psychologists and educators, others, including physicians, frequently base the diagnosis on the subjective reports of parents and educators. Hence inconsistency of diagnostic criteria and personal bias or subjectivity influence diagnosis, be it underdiagnosis or overdiagnosis. The aforementioned problems as well as the perceived overdiagnosing of ADHD has led many to question the diagnosis of ADHD and the prescription of Ritalin as a management preference.

Diagnosis of ADHD is difficult and challenging as it is most apparent in contexts requiring settled, quiet behaviour, such as in the formal learning situation as in schools. Furthermore, ADHD does not always show up in a brief one-to-one clinical appraisal with an experienced clinician. Considering that ADHD has a significantly high incidence of co-morbidity, diagnosis and more importantly differential diagnosis have become increasingly complex. One of the factors contributing to this is that a number of different disciplines are implicated in the diagnosis. The difficulty inherent in effecting a diagnosis is aptly conveyed by Taylor (1985), who indicates the lack of clarity regarding whether the proponents of different perspectives are even referring to the same children. ADHD diagnosis is confounded by the following: other problems can 'ape' or mimic ADHD, children with ADHD often behave well while being evaluated as they tend to enjoy attention (as most of the time they receive negative attention) and novel situations, these children may be inconsistent in their behaviours as they have obvious good and bad days, ADHD is regarded as a continuum rather than a categorical disorder, ADHD is defined according to its symptoms and ADHD can be viewed as a cultural construct (Lyon, 1998).

What is often perceived by some as being reflective of a spirited, creative nature that resists conformity, may be perceived negatively by others. Breggin (1996) believes that children displaying the key symptoms of ADHD, especially impulsivity and hyperactivity, can be better positively accounted for. He views these children as being energetic, creative and independent young people, who

are being adversely affected by the constraints of an inattentive, conflict engaged or stressed adult environment. Breggin's perception of the prescription and use of Ritalin has been highly influential in bolstering support for anti-Ritalin activists, and inspiration of accompanying negative attitudes.

2.15.3 Differential diagnosis

Meys (2000), a South African psychiatrist, elucidates the difficulty associated with effecting a differential diagnosis. The presence of co-morbid conditions makes differential diagnosis very challenging; if an incorrect diagnosis is effected the consequences could be detrimental not only to treatment or therapy, but to the afflicted individual and those in contact with him or her. Hence it is imperative to ascertain whether the aforementioned disorders are existing primarily and are creating the presenting symptoms or whether they co-occur as a correct early diagnosis helps the family understand and gain control and gives the opportunity to plan a specific intervention (Marcus & Stone, 1993), and this is especially important with regard to the prescription of medication such as Ritalin. A survey of literature (Demb & Weintraub, 1989; Gillberg, Ehler, Schaumann, Jakobsson, Dahlgren, Lindblom, Bagenholm, Tjuus & Blidner, 1990) reveals that the validity of the diagnosis and differential diagnosis of ADHD has been questioned by both clinicians and researchers. Emerging from this is the suggestion that the diagnosis of ADHD may be conceptualised as a function of the profession of the diagnostician and the accompanying diagnostic procedures that are being utilized (Barkley, 1990). When translated into practical management of the disorder, the aforementioned will influence prescription orientations and decisions.

2.15.4 Increase in diagnosis of ADHD and prescription of Ritalin

2.15.4.1 Overdiagnosis and overprescription

“With increasing frequency, children are being diagnosed with ADHD.”

(Breggin, 1996)

The apparent upsurge in the frequency of ADHD diagnosis and the corresponding increase in Ritalin prescription has also been bolstered by the recent trend to diagnose adults with this condition that had traditionally been considered a children-only disease (Bailey, 1999). While the diagnosis of ADHD is considered questionable by some, there are others who believe that ADHD is being overdiagnosed and gaining *“epidemic”* proportions (Reichenberg-Ullman & Ullman, 1996). American and British research has gained considerable prominence in this regard. Comparatively, there is a marked paucity of South African research, hence the need to look to international trends. According to *Newsweek* magazine, **“ADHD has become America’s No.1 childhood psychiatric disorder”** (Reichenberg-Ullman & Ullman, 1996). The number of children taking Ritalin has grown to two and a half times and 1.3 million of 38 million children between the ages of five and fourteen take Ritalin regularly. In 1995, Ritalin sales exceeded \$350 million. Federal studies have indicated that in the United States the rate of Ritalin use is at least five times higher than in the rest of the world. Despite success achieving success in treating ADHD, many doctors share consensus that Ritalin is overprescribed, considering the American trend. An American paediatrician has reported that parents of *“normal”* children have requested him to prescribe Ritalin simply to improve their children’s grades. Refusal to comply with their request results in the parents consulting another doctor (Reichenberg-Ullman & Ullman, 1996).

2.215.5 Marginalisation of teachers in the diagnostic process

Teachers and caregivers are severely marginalised, and often excluded entirely, in the diagnosis of ADHD and the decision-making processes relating to its management. This practice has served to create negative and often prejudiced and erroneous perceptions of medication as the very people who are going to witness the effects of the medication, and who could provide valuable information and assistance with the monitoring and regulation of the medication are often excluded. The gravity of this is mirrored in studies, which indicate that approximately 85% of children with ADHD are evaluated by primary care physicians who, judging from surveys (Gordon, 1998; Huffington, 1998), typically incorporate little if any information at all from school personnel. Teachers are rarely informed when their students have been diagnosed as ADHD and placed on medication (Gordon, 1998) and this lack of knowledge can interfere with the development of favourable perceptions towards the prescription of medication such as Ritalin as teachers may feel that their professional expertise and knowledge have been disregarded or undermined in the treatment process.

2.15.6 Family and diagnosis

Family conflict is all too familiar to those with ADHD. The diagnosis of ADHD and the prescription of medication may bring with some relief or added worries. Parents may experience guilt emanating from their lack of understanding of the disorder or not having understood the difficulties of the child earlier (Green & Chee, 1997). Siblings may become contemptuous of the affected child and reject the diagnosis of ADHD and medical management, as they may perceive this as a means of obtaining attention from the parents. While some caregivers may experience ambiguous feelings about the prescription Ritalin, to others it may serve as a blessing or a malediction.

Clearly, diagnosis and differential diagnosis of ADHD remain controversial despite the strides that have been made in research and practice. Accordingly, medical management would also be beset by dissension.

2.16 PROGNOSIS

Prognostic indicators show that school-age individuals with ADHD are at considerable risk for school failure, grade retention, learning disabilities, academic underachievement, and school dropout with emotional difficulties, negative social and behavioural outcomes and psychological problems featuring prominently in adulthood. Inappropriate management serves to exacerbate the aforementioned.

With regard to general prognosis, a review of twenty outcome studies (Klein & Manuzza, cited in Alloy et al, 1996) indicates ADHD continues into adolescence, at which juncture it may branch out into the pattern of antisocial behaviour (Taylor, 1994) known as conduct disorder. According to teacher rating scales, 85 percent of children with conduct disorder also satisfy the criteria for ADHD (Pelham, Gnagy & Greenslade, cited in Alloy et al, 1996). As for later adjustment, a study of young men who had ADHD showed that, compared with controls, they had significantly higher rates of conduct or antisocial personality disorders (27 versus 8 percent) and drug use disorders (16 versus 3 percent). Cognitive problems such as poor concentration tend to persist into adolescence, with predictable academic results: poor grades, expulsion and early withdrawal from school. It is not yet clear whether cognitive disabilities persist into adulthood, but the adult lives of former ADHD children are of course marked by their poor academic records (Barkley, 1990; Taylor, 1994; Klein & Manuzza, cited in Alloy et al, 1996).

Children with hyperactivity and impulsivity are at considerable risk for externalising problems, although with maturation and development the symptoms

will change over time or disappear altogether. Children with attention problems are at risk for internalising and learning difficulties (Alloy et al, 1996).

According to a study commissioned by the Journal of the Medical Association in 1998 (O'Connor, 1998), children afflicted with ADHD are more inclined to school failure and drop-out, substance abuse, accidental injury, suicide, interpersonal problems and involvement with the wrong side of the law. Studies indicate that those afflicted with ADHD tend to drop out of school because of failure experiences, or have less schooling than their age-mates. The remissness of significant adults to recognize, make personal contact with, provide a supportive environment and successfully treat or manage ADHD can foster a sense of failure (Barkley, 1995) that has the potential to become self-perpetuating. In the researcher's experience, ignorance, negative attitudes, incorrect information and a poor understanding of medical management can influence teachers and caregivers to effect uninformed or poorly informed decisions about the prescription of Ritalin.

It is usually taken for granted that ADHD symptoms abate with maturity. However, many individuals do not experience symptomatic improvement, hence emphasizing the dire need for early and appropriate identification and management of ADHD by child and adolescent service providers (Manuzza, Klein, Bonagura, Malloy, Giampino & Adalli, 1991; Manuzza, Klein, Bessler, Malloy & LaPadula, 1993; Weiss & Hechtman, 1993; Taylor, Chadwick, Heptinstall & Danckaerts, 1996).

ADHD affects children from all races, cultures and socio-economic groups, although certain groups may be over-represented (Alloy et al, 1996). Hence, prognosis is affected by the severity of the symptoms, the existence of other problems, familial and school factors, economic standing, cultural perceptions and very importantly, management decisions.

2.17 MANAGEMENT OF ADHD

“ADHD is not a simple problem with a single solution.”

(Harvard Mental Health Letter, 1995).

Emergent themes in ADHD management focus on multiple aetiologies and multi-modal interventions, with greater importance being attributed to intervention strategies rather than aetiology. Intervention is based on the premise that if there are numerous causal factors, then appropriate interventions would entail educational, behavioural, medical management as well as interdisciplinary (teachers, educational psychologists and medical professionals) collaboration and parental involvement.

Sonuga-Barke and Goldfoot (1995) emphasise the importance of timely intervention by alluding to negative parent-child interactions. Parents of hyperactive children may discipline and manage their children in ways that may be different from those employed by parents of “normal” children, and they may also perceive their children as being deviant in comparison with established norms, especially when their children are on Ritalin. Arising from this is the very real possibility of compromised expectations and management approaches exacerbating existing problems.

The conventional view that ADHD is an intra-individual condition, with problems being inherent within the child, has been contested as extrinsic considerations such as environmental factors, teaching goals and approaches exert a profound influence on the ADHD individual (Cooper & Ideus, 1995a,b). These have created an increased awareness of drug therapy, management approaches and options.

2.17.1 MEDICATION

Despite Ritalin being the most widely used stimulant for the management of ADHD (Kwasman, Tinsley & Lepper, 1995), objective diagnosis and treatment practices are often limited (Barbarese, 1996; Copeland, Wolraich, Lindgren, Milich & Woolson, 1987), with a limited number of professionals in private practice providing controlled medication trials to evaluate the response of Ritalin (Stancin, Christopher & Coury, 1990). Even when medication trials are attempted, teachers frequently have little involvement, parents may be reluctant to participate (Firestone, 1982), experience difficulty with adherence to protocol (DiTraglia, 1991), or terminate treatment without conferring with the consulting physician (Firestone, 1982)

Paediatricians and general practitioners contemplating the prescription of stimulants should be convinced that the problem really is ADHD. Children should not be prescribed drugs merely because they are noisy or unruly, and other manageable conditions should be excluded. If a condition necessitates the prescription of drugs, they should not be used to the exclusion of other therapies or as an excuse for not attempting to seek and eliminate the causes of specific symptoms in certain circumstances (Harvard Mental Health Letter, 1995).

On philosophical grounds, parents and professionals may be adamantly opposed to the prescription and use of medication. However, when faced with the practical reality of ADHD, medication may be prescribed even though parents and professionals may have doubts about the justification and benefits of the medication, especially stimulant medication.

2.17.1.1 PRESCRIPTION OF PSYCHOSTIMULANTS

Widespread concern has focused on the prescription of stimulants, as well as the prescription of stimulants by general practitioners. While the prescription and use

of medication as a treatment regimen is lauded in some circles, more recently a volley of criticism and negativity has prompted and necessitated a fresh look at the prescription and use of stimulant medication, as well as the impetus for the increase in the diagnosis of ADHD and the widespread use of Ritalin.

With increasing awareness of the nature and effects of ADHD, there is growing consensus that psychological, educational and social issues should also be addressed and that medication should not be seen as a panacea. Lack of knowledge and “ownership” of the diagnosis of ADHD by the medical profession, and the absence of a definitive test for this disorder (Venter, Van der Linde & Joubert, 2000), have also contributed to the controversy that characterises ADHD and the use of psychostimulants such as Ritalin. Contrary to popular belief that doctors are in charge of the prescription and treatment of children with ADHD, **“parents, not doctors, decide if they want a trial of medication and when it should be continued or stopped”** (Green and Chee, 1997). Unfortunately it seems as if many parents are not aware of this prerogative.

2.17.1.2 Increase in prescription of stimulant medications

Despite the subjective nature of the ADHD diagnosis, American studies reveal that the prescription of Ritalin to children diagnosed as having ADHD has escalated by 20 percent to 75 percent since 1989; there has been an increase in Ritalin’s availability – even to non-prescribed users (Tennant, 1999). Correspondingly, there has been a decline, from 40 percent to 25 percent, in the number of people receiving psychotherapy. Criticism has been levelled at the majority of health care providers who prefer **“relatively cheap drugs to costly therapy”** and **“our lazy culture’s inclination to medicate problems rather than act on them”** (Diller, 1999).

The number of children diagnosed with ADHD, in 1990, was 750 000. By 1996, this figure rose to approximately four million. Ciba-Geigy, the manufacturer of

Ritalin, maintains that this dramatic increase could be attributed to ***“heightened public awareness”*** of ADHD. According to the Drug Enforcement Agency, Ritalin production increased by almost 500% during the period 1991 to 1996 (Reichenberg-Ullman & Ullman, 1996). By 1999 it was estimated that Ritalin production had increased to 700%, with Americans consuming 90% of the Ritalin produced globally. Yet another report (TIME, cited in Carey, 2000) indicates that 330 million doses of stimulants are used to treat ADHD in the USA, which is five times the amount consumed in the rest of the world. To this effect, Dr. James Swanson, director of the Child Development Centre at the University of California, Irvine, has expressed concern regarding the sudden surge in the use of Ritalin. He maintains that approximately one-third of these children should not be taking the drug. This view is echoed by Dr. Lawrence Diller, a behavioural paediatrician, who has indicated a sense of alarm at seeing three- or four year old children taking Ritalin (Reichenberg-Ullman & Ullman, 1996). Dr. Kline (cited in “The People’s Pharmacy”, 1976), an expert in the field of learning disabilities at the University of British Columbia, believes that ***“...if these drugs were outlawed, doctors would be forced to make more accurate diagnoses and seek better means of handling the hyperactive behaviour of a certain small percentage of their little patients.”***

Emanating from this worrying trend were numerous questions forcing researchers and concerned individuals to delve into concerns such as whether there genuinely were that many children suffering from ADHD and why the use of Ritalin had increased at such a rapid rate. Just as there are multifarious factors contributing to the aetiology of Ritalin, reasons for the prescription of Ritalin are varied. Many parents approach medical practitioners with the request that Ritalin or stimulant medication be prescribed for their children. Reasons for this may range from problems associated with poor or ineffective parenting and inability of the parents to cope with the behavioural and academic demands that are placed on the child to pressure from other parents, educators and other professionals who work with the child. Parents may initially have reservations about the use of

Ritalin, but may feel compelled by societal demands and the burdensome fear that they may be contributing to the failure experienced by their children, to consider the use of Ritalin for their children.

There is growing concern and fear amongst some health professionals that stimulant medications may end up being overprescribed. Often, parents procure the short-term relief that they desire, from prescription drugs, but as Breggin (1996) states: ***“Behaviours are signals that should be interpreted and understood, not suppressed.”*** Breggin ardently believes that the over-prescription of drugs such as Ritalin has led to the suppression of signals a society needs to uncover and address growing problems as inherent in the flawed managed care system; the demands imposed on children by two working parents, extended work hours and inadequate child care as well as the association between legal and illegal drug abuse. Lambert, a developmental psychologist, (cited in Huffington, 1998), found that children on Ritalin are three times more likely to develop a taste for cocaine.

In 1996, it was estimated that at least two million children in the United States were taking stimulant medications, including Ritalin. Effectively, this translates into more than one in every thirty children in the age range of five to eighteen years. During the course of 1988, stimulants were prescribed for half a million ADHD children. In a period spanning eight years, this number has quadrupled and is being doubled at two yearly intervals. Recent research indicates that Ritalin is prescribed to four million American children annually (Diller, 1999) and that physicians in the United States prescribe five times the quantity for children as the rest of the countries in the world combined (Reichenberg-Ullman & Ullman, 1996). According to the “Seattle Times” (cited in Reichenberg-Ullman & Ullman, 1996), a recent United Nations report indicates that 3 to 5 percent of all schoolchildren in the United States are taking Ritalin. Accordingly Tennant (1999) indicates that ***“ADD has become an increasingly common diagnosis for young people with learning disabilities,”*** creating a ***“dramatic spike”*** in

Ritalin prescriptions. Reports by the Federal Drug Enforcement Administration indicate that more than one in every 30 Americans between 5 and 19 years old has a prescription for Ritalin.

2.17.1.3 Drug therapy

“Settling for Ritalin says we prefer to locate our children’s problems in their brains rather than in their lives.”

(Diller, 1999.)

Medical intervention in the form of medication therapy has been vigorously contested on the basis of there being insufficient empirical research and scientific evidence (Silver, 1995). Attempts to quell the enthusiasm to treat ADHD with medication have been particularly evident in the last decade, as reflected in the research of Diller (1999) and others. Medication therapy may take the form of psychostimulants (Ritalin, Dexedrine, Cylert); antidepressants (Tofranil and Norpramin); and antihypertensive (Clonidine) medication. Of these, the psychostimulants are prescribed most often.

The effect of psychostimulants, especially Ritalin, is incontrovertible. Misguided notions pertaining to Ritalin prescription and use have been influential in discrediting it as a viable treatment option (Klopper, 2000; Moodley, 2000). What is often overlooked is that the use of methylphenidate (Ritalin) offers one aspect of treatment in ADHD, as drug therapy is one of the supplementary strategies for coping with children with ADHD and facilitates a conducive personal context for learning. Medication can promote and enhance responsiveness to the learning environment and processes but it is unable to mitigate the stresses associated with ADHD and co-morbidly occurring disorders and difficulties (Brown, 1998a).

“The stimulant Ritalin treats the needs of health professionals, parents and teachers rather than the needs of children.”

(Breggin, 1996).

Drug treatment should not be seen as panacea for ADHD (Harvard Mental Health Letter, 1995), and for **“a teacher who cannot control a class of 35 children”** (Nicodemus, 1999). There is also growing concern that Ritalin is being prescribed to appease parents and health care professionals who may be struggling to understand and manage a perplexing condition. Critics of Ritalin maintain **“it takes the spark out of children”** or **“turns them into zombies”** (O’Connor, 1999). Breggin (1996) remonstrates against the use of medication such maintaining that **“we end up drugging our best and our brightest”** and assigns blame to environmental and social factors such as inconsistent discipline, lack of unconditional love, boring classrooms, large class sizes, overstressed teachers, lack of teacher attention to individual needs of learners, anxiety relating to abuse or neglect at home or elsewhere, conflict and communication problems and misguided educational and behavioural expectations for the child. A contradictory view by Klopper (2000) highlights the importance of medication, maintaining that stimulant medication **“is the mainstay of effective management”** and should therefore be administered prior to the initiation of other forms of management as **“you have to reach before you can teach.”**

2.17.1.4 Ritalin (Methylphenidate)

Ritalin is available in 10 mg tablets and is effective for approximately four hours. Fairly recently RITALIN SR (Slow Release) 20 mg tablets were introduced to the South African market. These tablets have a duration of action of approximately 8 hours, and may be used in place of RITALIN tablets when the eight hour dosage of RITALIN SR corresponds to the titrated 8 hour dosage of RITALIN. Novartis, the drug’s manufacturer in South Africa, reports sales of about 12 000 packs of Ritalin in South Africa every month. They estimate that the average patient consumes two tablets per day, so approximately 6000 children, a month, take Ritalin (Nicodemus, 1999).

The precise effect of Ritalin on the brain inadequately understood. Ritalin has been afforded a Schedule Seven (restricted) status to prohibit its abuse. Those in favour of the usage of the drug have lauded its positive effects, while those who are anti-Ritalin focus on the side effects. According to information presented in the Physician's Desk Reference (1999), the use of Ritalin in children under the age of six has been prohibited as safety and efficacy in this age group has not been confirmed. Also, adequate data on safety and efficacy relating to long-term use of Ritalin in children is lacking.

2.17.1.5 Action of psychostimulants

Psychostimulant medication is prescribed to improve attention and to regulate hyperactive behaviour. The optimum medication should curb hyperactivity, increase the attention span, and diminish impulsive and aggressive behaviour without inducing insomnia, drowsiness, or toxicity (Levine, 1987; Cantwell, 1990). However, acquiring the optimum medication is indeed time consuming and labour intensive as it is dependent on the collaborative efforts of caregivers, school personnel and medical professionals. In the researcher's experience, this rarely occurs.

2.17.1.6 Pharmacological Action of Ritalin

Psychostimulants impact on functions located at the neural synapses (Brown, 1998c). The pharmacotherapy of ADHD has taken advantage of the neurotransmitter level differences that appear to be operative in ADHD. Intensive studies have confirmed the safety and effectiveness of stimulant medication in the treatment of uncomplicated ADHD. It is thought that individuals with ADHD do not produce sufficient neurotransmitters and that psychostimulants function by stimulating the production of the chemical transmitters required to transmit information from the brain stem to the parts of the brain that deal with attention (Goldstein & Goldstein, 1990; Busch, 1993; Green & Chee, 1997).

Furthermore, contemporary research proposes that Ritalin affects the brain in those individuals by increasing the arousal or alertness of the central nervous system (Du Paul, Barkley & McMurray, 1991) and appears to increase the flow of neurotransmitters in the central regions, with a less conspicuous decrease in cortical areas (Lou, cited in Lou, Henriksen & Bruhn, 1990). The administration of psychostimulant medications appears to increase the children's attention spans, control impulsivity, decrease distractibility and motor activity, and improve visual-motor integration (Parker, 1992).

As a central nervous system stimulant, Ritalin (methylphenidate) resembles amphetamines in the nature and duration of its effects. Pharmacologically, Ritalin works on the neurotransmitter dopamine, and in this manner is similar to the stimulant characteristics of cocaine. When ingested in compliance with usual prescription instructions, Ritalin could have mild to moderate stimulant properties, but when injected or snorted the stimulant effect is heightened. Even when taken in accordance with prescription directions, there is a likelihood of fostering tolerance and dependence (Bailey, 1999).

The onset of action of Ritalin is 30 minutes with a duration of effect of 3-5 hours. Hence it is necessary to take a second dose during the school day as the effects of the medication will wear off during the day (Levine, 2000). Ritalin will only be effective if an adequate dose has been prescribed. Therefore it is imperative to establish the correct timing and size of dose as persons with ADHD vary drastically in their individual requirements (Levine, 2000). The quick-acting and short-lived nature of stimulants employed in the first-line treatment of ADHD is undoubtedly problematic as it complicates the establishment of an effective medication regimen, which would optimize benefits and decrease adverse effects (Brown, 1998c).

2.17.1.7 DOSAGE

While some clinicians prescribe stimulants to be taken during school hours only (Harvard Mental Health Letter, 1995), others recommend that stimulants should be taken on weekends and vacations as well. Levine (2000) advocates the prescription of Ritalin three times daily, before, during and after school and occasionally on weekends if needed. There is also the position that drug treatment should be discontinued for several weeks once every six months to ascertain whether it is still required (Harvard Mental Health Letter, 1995).

Children respond differentially to Ritalin, both across and within performance domains (Rapport & Kelly, 1991; Hale et al, 1998). Behaviour domains demonstrate diverse reactions to stimulants, even at the same dose (Pelham, Bender, Caddell, Booth & Moorner, 1985). Studies indicate that the optimal dose for behaviour change may have minimal, or even detrimental influence on the child's cognition or learning (Frankenberger, Lozar & Dallas, 1990; Swanson, Cantwell, Lerner, McBurnett & Hanna, 1991; Hale & Zimmerman, 1995; Hoepfner, Hale, Bradley, Byrns, Coury & Trommer, 1997) or may produce a "zombie" effect characterized by affective blunting, dysphoria, and social withdrawal (Buhrmester, Whalen, Henker, MacDonald & Hinshaw, 1992; Pelham, Carlson, Sams, Vallano, Dixon & Hoza, 1993; Teeter & Semrud-Clikeman, 1995). This effect is particularly distressing to parents who are presented with a "different" or "alien" child. Although under- or overdosing does not pose a risk, they will not provide the optimal benefit (Levine, 2000).

After a while tolerance to the drug may develop or the drug's effect may have diminished and an increase in the dosage becomes necessary. Effectual use of Ritalin necessitates regular review of the dosage and adaptation of the medication at any stage to satisfy the needs of the individual. In the haste to discredit Ritalin it is often overlooked that Ritalin serves as a means to an end and facilitates remedial and other therapies (Levine, 2000).

2.17.1.8 Combinations of medication

Combinations of medication are becoming increasingly popular when two or more disorders are co-existing. Sometimes these combinations are beneficial. In other instances they may produce side effects. It is possible for hyperactivity to surface with anti-epileptic treatment of a sedative nature. In this case anti-epileptic treatment and Ritalin should be prescribed (Levine, 2000). However, the anti-epileptic medication cannot be stopped abruptly as is the case with most other medications. Occasionally, the influence of Ritalin is reduced if milk or an antacid is taken together, and all sedatives may reduce the effect of Ritalin (Levine, 2000). Knowledge and attention to the side or adverse effects of combinations of medication are integral to the effective management of ADHD. In the absence of the aforementioned, it is not uncommon for Ritalin to be perceived as a harmful drug.

2.17.1.9 Monitoring of Ritalin

There is no typical dose or a typical ADHD child. Medication for ADHD has to be very "finely tuned" to suit the needs of the individual. Most often it is this "fine tuning" that is lacking in the management of Ritalin. Physicians depend on trial and error to ascertain appropriate Ritalin dosages for each patient and the titration of medication is usually determined by telephonic follow up with parents (Barkley, Fischer, Newby & Breen, 1988). Levine (2000) believes that successful medication cannot occur without having a precise system for monitoring the effect of Ritalin. It is essential to acquire not only the opinions of the caregivers, the child and teachers, but also to evaluate the effect of medication with the use of a rating scale.

2.17.1.10 Adverse effects of Ritalin

Bredell (cited in Nicodemus, 1999), a general practitioner, refers to Ritalin as “*an evil drug*” and strongly advocates alternative treatments for children with ADHD. He maintains that it diminishes the personality of the child and “makes the child less of a person” as children taking the drug are often depressed, suffer loss of appetite and lose interest in toys and friends.

Serious negative effects have been detected in about 20% of children, the most notable signs being insomnia or trouble sleeping, loss of appetite when the dose is high, nausea, moodiness and a change in personality. Loss of appetite and insomnia are generally transient and decrease as tolerance develops (Barkley, 1990). Severe depression may occur upon withdrawal (Bailey, 1999) and in some children, considered to be the minority, Ritalin can induce facial tics (Nichodemus, 1999) or Tourette's syndrome. When this occurs, a change of medication is advocated. Some children are prone to experiencing a “rebound effect,” such as insomnia, which occurs when the medication wears off.

Suppression of growth (such as height) has been reported with the use of a disproportionately high dose of Ritalin over a protracted period of time, especially during the puberty growth spurt, but a causal relationship has not been established. Growth can be slowed down, but with “*drug holidays*” rapid catching up of growth occurs (Levine, 2000). Other adverse effects that have been noted are nervousness, vomiting, dizziness, palpitations, changes in heart rate and blood pressure (usually elevation of both, but occasionally depression), abdominal pain, digestive problems, hypersensitivity (skin rashes and itching, urticaria, exfoliative dermatitis) (Physician's Desk Reference, 1999), toxic psychosis and psychotic episodes. High doses may produce anxiety and restlessness, paranoia, hallucinations, delusions, tremors and muscle twitching, fever, convulsions and headaches which may be severe, irregular heartbeat and respiration, formication (sensation of bugs or worms crawling under the skin) and

excessive repetition of movements and meaningless tasks (Bailey, 1999), anorexia, drowsiness, dyskinesia, tachycardia, angina. Leukopenia and / or anaemia, as well as a few instances of scalp hair loss, have been reported in patients taking Ritalin, although a definite causal association has not been established (Physician's Desk Reference, 1999). Flisher, Meys and Korpershoek (2000) have reported that obsessionality and compulsivity may manifest as adverse effects of methylphenidate and have noted the onset of obsessionality and/or compulsivity with the initiation of this treatment. Neuroanatomical and neurophysiological explanations have been proffered as possible reasons for this occurrence. Of these numerous adverse effects, insomnia, decreased appetite, headache and abdominal discomfort have been documented as being statistically significant in the American Journal of Paediatrics (Moodley, 1999).

Levine (2000) is of the opinion that there are no dangerous side effects – just minor negative effects when using Ritalin correctly. Knowledge of these facilitates the monitoring of the dosage. Thus, the use of Ritalin necessitates careful monitoring of people requiring long-term drug therapy.

2.17.1.11 Abuse of stimulant drugs

The resurgence in the abuse of stimulant drugs has called into question the stimulant effect of Ritalin (Bailey, 1999). Despite being a 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 (Bailey, 1999).

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 (Block, 1999). The Drug Enforcement Administration (cited in Huffington, 1998) has reported increasing Ritalin abuse among adolescents who occasionally crush it into a powder and snort it— which could cause heart failure. According to Bailey (1999) death due to the non-medical use of Ritalin has been known to occur. Ritalin tablets contain “inert ingredients” in order to increase the size of the 5-20mg tablets. Depending on the size and formulation of the Ritalin tablets, according to the manufacturer inert ingredients such as lactose, starch, polyethylene glycol, magnesium stearate, sucrose, talc, cellulose, mineral oil, and various conditioning agents are used in the composition of Ritalin tablets. These ingredients are “inert” when taken orally, but can create serious problems when injected or snorted (Bailey, 1999).

The hypodermic syringe directs a concentrated dose of a drug rapidly and instantaneously, hence it circumvents many of the body’s natural defense mechanisms. When drugs are prepared by the street user, allergens and other contaminants enter the syringe and are injected thereby passing directly into the blood and body tissues. This makes it very difficult for the user to control the intensity of the drug effect, thus increasing the likelihood of toxic overdoses. Intravenous drug use can produce complications such as drug overdoses, toxic reactions, blood clots from scar tissue, infections (‘blood poisoning, abscesses, hepatitis, AIDS”), scars (“tracks and adhesions”), pulmonary problems (“addict’s lung, embolisms), and skin and circulatory problems. Medical research has documented permanent and irreversible lung tissue damage related to intravenous use of crushed Ritalin tablets (Bailey, 1999).

According to recent statistics prescriptions of Ritalin have escalated by more than 600% since 1994, and an appreciable quantity of these prescriptions have been diverted for illicit non-medical use. However, the manufacturing quotas have not reflected a corresponding increase to meet rising demand. This has prompted sporadic and regional shortages of Ritalin, as the illicit drug trade has increased

the shortage of the drug for legitimate medical purposes (Bailey, 1999). Grossly inflated black market prices have not deterred the abuse of the drug.

2.17.1.12 Drug dependence

It has been advanced that Ritalin should be used with caution in emotionally unstable individuals, such as those presenting with a history of alcoholism or drug dependence, as they may increase dosage on their own initiative. The chronically abusive use can encourage marked tolerance and psychic dependence accompanied by varying degrees of abnormal behaviour. Frank psychotic episodes are possible with abuse. Close supervision is necessary during drug withdrawal, as severe depression and the effects produced by chronic overactivity can be unmasked. This may also require long-term follow-up because of basic personality disturbances (Physician's Desk Reference, 1999).

Studies have documented that the danger of drug abuse or addiction is minimal as patients do not feel euphoria or develop tolerance or craving. Dependence on stimulant drugs may occur, but this develops in the same manner as one would become dependent on medication to treat other disorders or ailments. The primary side effects such as depressed appetite, stomach aches, nervousness and insomnia usually abate within a week or can be eliminated by prescribing a lower dose. Physical growth may be delayed for a few years while the person is on stimulant medication, but it reverts to normality in adolescence, and no long-term deleterious effects have been evidenced (Harvard Mental Health Letter, 1995).

2.17.1.13 Fear of addiction to stimulants

The fear of addiction to stimulants has been received with some scepticism. It is believed that the stigma and embarrassment associated with taking a drug to control personal behaviour may be humiliating to children, and especially

adolescents. Adolescents resent feeling **“different, defective, or dependent”** (Harvard Mental Health Letter, 1995). Green and Chee (1997: 130) provide a compelling argument for the prescription and use of psychostimulants, the essence of which is captured aptly in the following excerpt:

“Children, adolescents and even adults with ADHD live their lives with a circling, muddled mind. When medication is effective they become more clear thinking and focused. Humans take addictive drugs to escape the world, not to become fully focused on reality... You don’t get addicted to reality.” Support for this perspective has been provided by Kewley (1998) with research evidence demonstrating that concerns associated with the prescription of Ritalin such as the suppression of growth, long- term tolerance and dependence have no basis.

2.17.1.14 Favourable response to psychostimulant medication and efficacy of Ritalin

Medication, especially psychostimulants, is effective in providing temporary relief by alleviating the symptomatic problems of ADHD sufferers. The effectiveness of psychostimulants in curbing hyperactivity was initially reported over fifty years ago, when children taking Benzedrine revealed longer attention spans and an enhanced ability to concentrate, with a corresponding decrease in hyperactivity and oppositional behaviour (Bradley, 1937). Support for the biological origin of ADHD has been provided by the instantaneous and obvious relief from some of the symptoms by stimulant drugs such as Methylphenidate (Ritalin), Dextroamphetamine (Dexedrine) and Magesium Pemoline (Cylert) (Barkley, 1994; Green & Chee, 1997). These drugs have demonstrated efficacy for approximately 75% of ADHD sufferers (Harvard Mental Health Letter, 1995) with some researchers having reported improvements in 70 percent to 90 percent of children with ADHD. Improved attention and motor co-ordination and reduced irritability and restlessness have been noted. Special education and tutoring have also been enhanced (Harvard Mental Health Letter, 1995).

Ritalin is a potent drug, whose effectiveness has been demonstrated in calming hyperactive children, focusing their attention on schoolwork and curbing aggressive outbursts. The beneficial effect of stimulant medication has been well known for over fifty years. Ritalin was initially introduced for use in adults with depression, and Ritalin can be taken by children, even before they begin attending school, by teenagers and adults (Levine, 2000). In children, stimulant medication has been shown to be more efficacious than anti-depressants. Stimulants have been used effectively in the medical management of ADHD since 1937, with methylphenidate (Ritalin) being introduced in the late 1950's (Green & Chee, 1997). Antidepressants are preferred in the treatment of adults as the potential for the abuse of stimulants is a reality (Goldstein, 1990).

Ritalin is the most commonly used medication for ADHD in South Africa (Levine, 2000) with Ritalin and dextroamphetamine being used internationally (Green & Chee, 1997). Ritalin is reportedly the most effective and easiest to monitor. The unfounded ignorance and fear about the use of medication for ADHD has generated significant controversy, despite Ritalin having ***“been used with absolute safety for over fifty years, without a single addict ever being documented in any medical journal”*** (Levine, 2000) and ***“no evidence of addiction, dependency or an increased risk of later substance abuse”*** (Green & Chee, 1997) being recorded. The belief that Ritalin has utility value until a certain age, after which it becomes unsafe or abruptly has the opposite effect is another misconception (Green & Chee, 1997; Levine, 2000).

2.17.1.5 Positive Ritalin effects and compliance

Short-term treatment studies have documented positive Ritalin effects on electrophysiological instruments (Taylor et al, 1993; Young, Perros, Price & Sadler, 1995), cognitive measures (Balthazor, Wagner & Pelham, 1991; Malone & Swanson, 1993; Malone, Couitis, Kershner & Logan, 1994) and achievement

measures (Brown, Jaffe, Silverstein & Magee, 1991; Evans & Pelham, 1991), with no deleterious effects associated with high dosages for the impulsive/hyperactive ADHD subtype (Douglas, Barr, Desilets & Sherman, 1995; Tannock, Schachar & Logan, 1993). Research has also shown that successful medical management is significantly dependent on compliance (Klopper, 2000; Levine, 2000). However, a veil of uncertainty enshrouds the long-term benefits of drug treatment, with clarity and more research being needed in terms of the impact of Ritalin on the development of the individual.

2.17.1.16 Judging treatment effectiveness

It is difficult to determine the effectiveness of treatment for ADHD. Subjective assessment measures, as well as uncertainties in the standard measures of outcome and the volatile nature of ADHD present difficulties. Also, patterns of transformation fluctuate and are unpredictable with drugs and psychotherapy. An additional problem is that available research is largely short-term, although the issues are long-term ones. The accompanying quandary is that researchers may never be certain whether childhood drug treatment has enduring effects, as ***“assigning children at random to a drug or a placebo is no longer considered to be acceptable”*** (Harvard Mental Health Letter, 1995).

It is envisaged that more precise and reliable treatment could be offered with the refinement of diagnostic standards and differentiation through the study of family histories, genetics, drug responses, neuropsychological tests, and the associated learning difficulties and antisocial behaviour (Harvard Mental Health Letter, 1995).

Attempts to examine stimulant effects include multi-method placebo controlled medication trial protocols (Fischer & Newby, 1991). While these provide opportunities for objective data based decision-making, clinical protocols demonstrating uniform treatment effects are very limited (Barkley, et al., 1998). Many explanations have been offered for the limited findings, such as variable

subject inclusion and exclusion criteria (Fletcher, Morris & Francis, 1991; Riccio, Gonzalez & Hynd, 1994; Shaywitz et al, 1994), the co-morbidity of ADHD and other disorders (Forness, Cantwell, Swanson, Hanna & Youpa, 1991; Abikoff & Klein, 1992; Barkley, Grodzinsky & DuPaul, 1992), differential medication response among response among ADHD subtypes or co-morbid conditions (Barkley et al, 1991; Matier, Halperin, Sharma, Newcorn and Sathaye, 1992; DuPaul, Barkley & McMurray, 1994), and changeable informant tolerance or ratings of attention problems (Hale et al, 1998; McBride, 1988; Cohen, Becker & Campbell, 1990). The multidimensional nature of attention disorders (Barkley, 1996) may provide a tenable explanation for the limited utility of cognitive measures in uniformly diagnosing ADHD and determining the treatment effects of methylphenidate.

2.17.2 ALTERNATIVE MEASURES

The search for alternative forms of management has been spurred by the “*fear*” and “*suspicion*” associated with Ritalin and its long-term effects (O’Connor & Garson, 1999). Some proponents of alternative measures to the management of ADHD believe that the emphasis should be on healing rather than drugging; that underlying causes of ADHD must be identified prior to treatment of the problem, as “***Ritalin and other prescription drugs merely mask the symptoms, and in some cases even exacerbate the problem***” (Block, 1999). Carey (2000) exhorts the benefits of sensory input, motor skill stabilization and enhancement and the consideration of diet and sub-clinical allergies in an alternative approach to addressing hyperactivity and concentration problems.

Proponents of “natural” therapies believe in helping children with ADHD in a natural and holistic manner. While some of these alternatives are being dismissed as “*quack*” remedies, others are gaining prominence partly as a result of the ignorance, lack of understanding and negative media attention attributed to Ritalin use and the current shift towards holistic therapies. Some approaches

include homeopathy, nutritional changes, occupational therapy, neuro-physiotherapy, polarity therapy (O'Connor & Garson, 1999), brain gym and educational kinesiology (Denison, cited in Edwards, 2000) as alternatives to drug free management.

2.17.2.1 Homeopathic approach to treatment

Homeopaths believe that every child presents with unique needs and problems, which must be managed accordingly (Reichenberg-Ullman & Ullman, 1996), as opposed to the conventional medical orientation, which places these children in distinctive categories and then treats them accordingly. The homeopathic approach to ADD claims to treat ADD effectively by bringing the individual into balance. Homeopaths treat people with ADD and not the ADD itself, as is the practice in conventional medicine.

2.17.2.2 Dietary intervention

Dietary manipulation remains a controversial approach to the management of ADHD. Diet-related theories suggest that food additives, megavitamins, allergies, hypoglycaemia and certain foods are the culprits that affect behaviour and cause learning disorders and ADHD. A "diagnostic" diet in the form of the few foods diet is followed for a period of three to four weeks in order to determine whether diet can modify behaviour. Foods that are suspected of provoking adverse behaviours are restricted and then introduced sequentially over a period of weeks or even months.

2.17.2.2.1 Removal of food additives

A widely debated theory proposing that food additives precipitate ADHD was introduced by Feingold (1975). Feingold attributed hyperactivity to the consumption of foods containing artificial flavours, colours and preservatives,

which have increased in western diets. The Feingold diet offers a form of therapy, which focuses on the regulation of the hyperactive child's diet and the removal of salicylate and food additives (Goldstein, 1998). Several studies have been conducted on the effectiveness of the Feingold diet, the majority of which have noted that the diet lacks effectiveness in curbing hyperactivity (Silver, 1992, 1995). Despite this evidence, the Feingold diet is still popular and is supported by numerous teachers and caregivers of hyperactive children.

2.17.2.2.2 Control of blood sugar level

Hypoglycaemia, a deficiency in the level of blood sugar (Silver, 1995) has been identified as a cause of many learning disabilities and ADHD. It is believed that the blood sugar level decreases approximately an hour after food has been ingested, and the learner's energy for learning is drained. Barkley's (1995) research reveals that several studies indicate that sugar in the diet fails to increase hyperactivity.

2.17.2.2.3 Use of megavitamins

The use of megavitamins as a treatment option also occupies a controversial status. Although there is research evidence indicating its effectiveness (Cott, 1972; Alder, 1979; Brenner, 1982), most medical professionals believe that additional research is required prior to the general prescription of such treatment (Silver, 1995).

2.17.2.2.4 Treatment for allergies

Diet- and environment related allergies have been identified as adversely affecting learning, and treatment involves the elimination of the element inducing the allergy. Crook (1983) and Rapp (1986) have claimed success with this form of treatment. Food components such as sugar, milk, eggs, wheat, chocolate,

and citrus (Crooke & Stevens, 1986; Lowenthal & Lowenthal, 1995) are believed to cause allergies and impair learning.

2.17.2.2.5 Nutritional biochemistry

Studies pertaining to nutritional biochemistry allude to a salient relationship between diet and brain function. A surplus and/or deficiencies in certain dietary constituents contribute to the functioning of the central nervous system and accordingly have direct effects on behaviour (Fishbein & Meduski, 1987). Established research indicates that protein and calorie deficiency in early life can produce permanent anatomical and biochemical changes in the brain. In undernourished children intelligence is diminished and there is substantial attestation that learning disorders are caused by undernutrition.

2.17.2.3 Stress

Proponents of drug free management of ADHD individuals vociferously advocate numerous alternatives. According to Hannaford (cited in Edwards, 2000), the ADD person should be re-named the "*Stressed out' Survival-Orientated Human (SOSOH)*" as she theorizes that stress creates an excessive emphasis on survival orientated neurological processing, which compromises rational, limbic and cortical functioning.

2.17.2.4 Cognitive behaviour modification

Theoretical models premised on ADHD being essentially a manifestation of the inability to exercise control over impulses and to cope with rule governed behaviour, focus primarily on developing cognitive strategies and metacognitive mechanisms in attempts to assist learners with ADHD to engage in cognitive behaviour modification (Hall, 2000). This is facilitated through insight into their

cognitive processes and knowledge pertaining to the effects of their behaviour on academic, social and behavioural outcomes. Cognitive behaviour modification can be employed by encouraging learners with ADHD to increase their awareness of how they feel, think and behave and the manner in which their actions and behaviour impact on others, the monitoring of behaviour and academic performance is facilitated. In so doing, the development of feelings of competence, enhanced awareness of the need for self-control, internal loci of control, intrinsic motivation, a sense of personal responsibility for independent learning and academic endeavours and effective executive functioning and self-monitoring are promoted. Self-management is promoted amongst those learners with ADHD and disruptive behaviours who are capable of approximating the goal of self-management (Roberts & Dick, 1982; Shapiro et al, 1998).

2.17.3 PSYCHOTHERAPY

Psychotherapy fulfills an important function in helping ADHD sufferers as well as the people who come in contact with them to obtain an insightful understanding into ADHD, the possible and realistic management options and the provision of sustained therapeutic support.

2.17.4 MANAGEMENT OF ADHD IN SCHOOLS

According to the United States Department of Education (1991), (cited in Lerner, 1997), a policy memorandum clarifies the eligibility of ADHD children for special education services. These children can be identified and accommodated according to one of three existing special education categories: other health impaired, learning disabilities, or severe emotional disturbance. Additionally, children with ADHD may be accommodated in regular classrooms. However, the nature of the disability will determine the category of eligibility and the type of educational service. Although moves are afoot to develop policy and practice pertaining to the provision of education for learners with special needs (LSEN) in

the South African context, the practical reality relating to the implementation of inclusive education poses a daunting challenge in the face of constraints imposed by the lack of appropriate facilities, physical and human resources and specialized support. Hence placement alternatives for children with ADHD are severely limited, with these children still being referred to segregated settings typified by schools for specialized education as their needs are not being met adequately in mainstream schools.

Although there is a glaring tendency for most school systems to externalize responsibility for managing ADHD entirely by declaring it a medical condition falls outside the expertise of educators (Gordon, 1998), interventions for children with ADHD in the school context is an essential aspect of any management programme. Behaviour management, which is essential to successful teaching and learning, is universally acknowledged as a pivotal component of any intervention programme for children with ADHD (Gumpel & Reid, 1998). Schools for specialized education are usually intent on following through with medical as well as other forms of intervention as there appears to be a better understanding of ADHD and drug therapy in this context.

2.17.5 TEACHERS AS MANAGEMENT AGENTS

“Teachers are in the best position to assess whether or not treatment is effective.”

(Brauer, 1999).

Teachers have a cardinal role to play in the medical management of the child with ADHD. Obstructive attitudes by teachers and school staff appear to be instrumental in impeding the efficacious management of children who have been prescribed Ritalin (Green & Chee, 1997). While some teachers are amenable to assuming an unofficial responsibility towards the administration of Ritalin and the monitoring thereof, others may insist on following protocol or even demanding

that parents come to school to administer the treatment. Resolute anti-medication attitudes of teachers can be highly influential in informing the prescription decisions of parents, who may be apprehensive about admitting that their child has been assessed for ADHD and prescribed medication. However, enlightened attitudes towards medical management of ADHD and changing perceptions have been demonstrated by the majority of schools whose staff are keen to assist (Green & Chee, 1997).

2.17.6 CAREGIVERS AS MANAGEMENT AGENTS

“Parents function as the principal therapists in the management of ADHD children.”

(Barkley, 1995).

Caregivers play a critical role as the primary therapists in the management of ADHD; by virtue of the aforementioned it is imperative that they be provided with relevant information about ADHD, medication and related concerns. As significant others in the child's life parents or caregivers can provide valuable insight and information pertaining to the diagnosis and management of children with ADHD. Effective and appropriate behaviour management strategies, problem-solving skills and coping mechanisms should be developed to enable parents to address the behaviours and symptoms associated with ADHD as often, parents are blamed for their children's behavioural problems. Parents often take the initiative in requesting referrals and seeking help. However, without proper guidance and information they may be misled. Typically, the knowledge that parents have of ADHD is informed by information obtained from media reports, which are more often than not biased toward a particular aspect of the condition or reflective of the writer's prejudices or views.

2.17.7 SUMMARY

Management of the child with ADHD in the social, home and school environments poses an immense challenge to professionals as well as parents and caregivers. Ideally, appropriate and effective management should embrace the physiological, psychological and social worlds of the child so as to optimize the holistic functioning of the child, thereby promoting the ideals of education as well as healthy living. This entails the provision of multimodal or combined interventions, which comprise of counselling, behaviour management, special education services, medication therapy, parent and teacher training (Silver, 1992; Barkley 1995; Lerner et al, 1995). For any form of intervention to be successful, the afflicted individual must be well informed and involved. Unfortunately, this rarely occurs as in most instances the ADHD sufferer is excluded or relegated to the periphery as others make life-changing decisions about this individual. Very often individuals with ADHD are not even aware of this condition.

Worrall (cited in O'Connor, 1999) as well as Parker, Storm, Petti and Anthony (1998) contend that "***combined management***", consisting of medication, educational intervention, accommodation in the home and classroom settings, and possible counselling, is the most effective approach.

While psychostimulant medication may produce a palliative effect, it should not be seen as a panacea to prevailing problems. It is often forgotten that drugs cannot endow skills, upon people, which they have never developed or completely alleviate the resulting frustration and shame. Perhaps the most significant function of medication is to create the space for other treatments to take effect (Harvard Mental Health Letter, 1995). A fundamental part of the solution involves acknowledging that the presenting symptoms constitute a recognized psychiatric disorder. This is often assuring encouraging for children and parents who have found the situation mystifying and vexatious.

Medication facilitates the progress of other facets of the management programme. To this effect Cooper and Ideus (1995a,b) express caution with respect to placing undue emphasis on medication, asserting that while medication may be useful in alleviating overt behavioural symptoms, it should be used as a component of a comprehensive, holistic 'treatment package', with the overall focus of instituting longer term strategies. Support for the aforementioned has been provided by Roth (1995) and the British Psychological Society (1996), with clear indications that management should encompass structuring of teaching and learning experiences and contexts, behaviour modification, social skills training as well as cognitive therapy, training and support for caregivers.

“There is a need for ongoing dialogue among all those involved in ADHD at all levels (e.g. researchers, practitioners, parents).”

(Gumpel and Reid, 1998)

The pragmatics of medication management are salient in the management of ADHD as they have a significant bearing on the prescription, monitoring, titration and achievement of effective doses of medication. The relationship between clinician and patient, as well as parents in the case of children with ADHD, is of absolute importance as it provides the basis for the establishment of trust, medical compliance, consistent and effective monitoring and the procurement of medication, or the lack of these. Furthermore, the practical and relational aspects of clinician, patient and family interactions can be enhanced through the provision of accurate information pertaining to the use of stimulant medication and education about ADHD and medication. Additionally, the terminology applied to the descriptors of ADHD has profound implications for the development of perceptions and attitudes pertinent to possible modes of intervention.

Consistency and continuity in the moulding of dysfunctional behaviour to that of functional is imperative in the treatment and management of ADHD. Since

ADHD traits traverse many domains, no single person possesses the skills to manage the child's behaviour across all domains. Hence an interdisciplinary model of care would offer a holistic approach to a multi-factorial condition, with a team of people involved in the child's health, social and academic welfare to work collaboratively in identifying and meeting the needs of the child. This also provides a framework for which to monitor behaviour across all domains, which would not be possible if people or professionals work in isolation.

2.18 PERCEPTIONS OF RITALIN AND ITS PRESCRIPTION

The hue and cry about the prescription of psychostimulants has imparted a negative image to Ritalin, which is presently the most popular drug of choice for treating ADHD in South Africa and internationally. A perusal of contemporary research and personal experience has shown that irresponsibility, the lack of appropriate knowledge and infrastructures, has led to the widespread mismanagement of the drug by professionals and others.

2.18.1 PERCEPTIONS OF RITALIN

“Parents who casually put their child on Ritalin may be stigmatizing their child for life as a problem child and troubled adult.”

(Block, 1997).

The prescription of Ritalin is a burning issue with some parents and teachers, who feel browbeaten into accepting medical management of ADHD. A common complaint is that Ritalin has become a first resort for overburdened teachers and harassed parents. Parents also feel pressurised to consent to medical treatment once professionals have agreed upon this mode of management, or face possible reproach and ostracism by attempting to ***“buck an entire system and search for alternatives”*** (Nicodemus, 1999). Although school officials claim that they do not compel parents to place their children on Ritalin (Nicodemus,

1999), many parents feel obliged to consent to the decision that has been taken by school authorities and medical professionals for the sake of maintaining a harmonious relationship with the school. Block (1997) cautions against choosing and instituting drug therapy, fearing that it may have debilitating long-term effects on the individual in terms of personal development.

According to Klopper (2000) the rate of children receiving drug therapy with stimulants varies considerably from a high figure of 3% in the USA, 0.9% in Australia, to 0.03% in Britain. These figures indicate that ADHD is grossly under-diagnosed and under-treated in Britain. This is significant as the South African medical profession is regularly perceived as and accused of over-diagnosing and excessively prescribing stimulants using Britain as a guide.

2.18.1.1 Treatment decisions, perceptions and attitudes

Terminology plays an influential role in the formation of perceptions and attitudes as well as treatment decisions in medical management. By referring to Ritalin as medication rather than a drug prevents the transmission of mixed messages, especially to older children and adolescents (Levine, 2000). Empirical evidence suggests that although ADHD is serious, treatable and apparently occurring more frequently, it usually remains untreated in Britain (Klasen, 1998). A possible reason for this is that treatment decisions are influenced not only by scientific research, but significantly by people's views and attitudes. Discordant views of parents, practitioners and those afflicted can have a negative impact on compliance, satisfaction and use of health care resources. Klasen has identified six principal themes, which affect treatment of ADHD. These relate to the question of whether hyperactivity is a medical disorder, the impact of labelling (disabling or enabling), family dysfunction as a possible cause of hyperactivity, a question of timing, the presentation of inadequate and conflicting information and inadequate pathways to treatment.

A sense of disquiet prevails in the areas of management and treatment of ADHD. Contemporary research efforts have questioned the knowledge bases and attitudes of medical professional, with particular relevance to initiating the prescription of stimulant medication. A local study (Venter et al, 2000) highlights these concerns, indicating that the **“lack of ownership”** of diagnosis of ADHD by the medical profession has been hampered by **“lack of knowledge”** of physicians and the absence of a definitive test for this condition. The pervasive feeling in current research initiatives brings to the forefront the influence of tinted lenses in the medical approach to treatment and management, an approach which fails to address and provide interventions at the psychological, social, educational and familial levels, all of which are integral to the healthy and complete development of the individual.

2.18.1.2 The use of stimulants as a soft option

The perception that drug therapy is an unsuitable mode of management which provides an “easy way out” as it could possibly give rise to short-term improvements in behaviour but eventuate long-term harm, has been articulated by some professionals (Swanson et al, 1991). However, offering South African perspectives, medical professionals such as Klopper (1999) and Moodley (1999) endorse the use of Ritalin for the management of ADHD, maintaining that many misconceptions, misperceptions and negative attitudes frame the prescription and use of Ritalin. Klopper qualifies his stance by extolling the positive effects of the drug, indicating that **“Ritalin is not a quick-fix pill, but is used in the long term. Neither is it a mind-bending drug, but restores the levels of dopamine in the brain to normal.”**

The polemic related to the prescription of Ritalin has brought to the fore the lack of knowledge and understanding that has influenced people’s perceptions and corresponding attitudes toward ADHD and its sufferers. As the numbers of ADHD sufferers grow, we can no longer plead ignorance and feign understanding of the

condition as the responsibility to meet the challenges presented by these sufferers rests on our shoulders.

2.19 CONCEPTUAL FRAMEWORK

The conceptual model adopted for this study is that of the biopsychosocial model, which is located within the Systems Theory. Emanating from the aforementioned is the ecosystemic perspective, which posits the individual as being constituted of systems, which in turn are components of larger systems.

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

An alternative framework to the medical model that focuses on diagnosis and treatment of ADHD draws and extends on the person-environment relationship in the context of the ecosystemic perspective, which posits the influential nature of the various interactions, relationships and dynamics experienced by individuals at different levels, in their environments (Donald, Lazarus and Lolwana, 1997). In attempting to understand human development and behaviour, this theoretical position relies on a concerted focus that emphasises the recognition and validation of individual differences, which profoundly influence our conceptions, understanding and interventions employed with learners experiencing ADHD and associated learning difficulties. Fundamentally, it challenges established and entrenched perceptions, attitudes and beliefs, which conceptualise the individual as *"having the problem or being the problem,"* with expectations of Ritalin acting as a panacea or "solution." Inherent in the ecosystemic perspective and

synchronous with this study is the consideration of the ADHD learner's interactions with teachers, caregivers and professionals and the corresponding need to address the learner in totality. This enables the diverse needs of the individual to be catered for in terms of their biological, psychological and social requirements, thereby offering a comprehensive therapeutic framework. Insights obtained from these interactions may then be utilized to employ relevant multi-component and multi-layered interventions and to enhance the synergy and effectiveness of the chosen management interventions.

While the prescription of Ritalin and the medical management of ADHD is located essentially in medical discourse, for the purpose of this study the ecosystemic perspective has been employed to facilitate an informed understanding of factors that are integral in medical and other forms of management.

The focus of chapter three is on the research design, procedure, sampling technique and measures applied in the study.

CHAPTER THREE

METHODOLOGY

3.1 PURPOSE OF THE STUDY

The purpose of this study is to determine and explore perceptions and attitudes of teachers and caregivers towards the prescription of Ritalin for managing and sustaining on-task behaviour in learners with ADHD. Inherent in this research endeavour is an exploration of the knowledge, understanding, and cultural appreciation of teachers and caregivers regarding the medical management of ADHD.

3.2 CONTEXT OF THE STUDY

This study is located in Kwa-Zulu Natal, in particular a circuit in the South Durban region. The survey sample was randomly selected from the cohort of teachers and caregivers at The Browns' School, a school for specialised education which caters for learners with diagnosed and undiagnosed ADHD, learning disabilities, cerebral palsy, autism and developmental delays. Teachers were selected randomly (i.e. having varying levels of professional qualifications and teaching in each of the different grades), and caregivers comprising of biological parents, foster parents and significant others were also chosen randomly (i.e. two caregivers from each grade level). This specific circuit and site were identified and selected on the basis of accessibility of the preferred sample, time constraints, convenience and financial and utility viability. The Kwa-Zulu Natal Department of Education and Culture and the relevant school were contacted in writing by the researcher, requesting permission to conduct the study at the site mentioned. The nature, rationale and focus of the study were presented. The Department of Education and Culture responded accordingly, granting the researcher permission to proceed with the research with the proviso that the

authorities of the school concerned were also in agreement. Permission to institute the study was duly granted by the school authorities. Ethical clearance was also obtained from the University of Durban-Westville to be able to conduct research of this nature.

3.3 RESEARCH DESIGN

The method pertinent to this study is situated in the survey paradigm. Responses relating to the knowledge base of teachers and caregivers, their status and opportunities to access information and their cultural understanding relating to ADHD and medical management were solicited through the presentation of questions in a questionnaire format. The researcher considered this research instrument to be the most appropriate considering the issues to be surveyed and the practical viability of the instrument. Furthermore survey research is never an aseptic process as it is a human endeavour that allows for the consideration of personal values, expectations and perceptions. As a relatively conspicuous and obtrusive research method it provides the potential for ample opportunities for innovation and clarification of research issues.

The survey paradigm has heightened utility value in social scientific research. Data from survey research can be considered as a source of qualitative as well as quantitative insight into the problems being studied as the essence of explanation is located in developing a vivid and nuanced qualitative portrayal of the events or issues being researched. Hence the survey paradigm serves as a perspective or framework that can be used as a lens to examine the social and scientific world and as such provides diverse approaches to investigating phenomena. As paradigms are unquestioned assumptions and beliefs that guide researchers and practitioners in a particular discipline to effect research and elicit solutions to problems, they influence the manner in which data is collected (method), as well as the philosophy underpinning the research process

(methodology) and the consequences of deliberate and planned interventions (Warwick & Lininger, 1975).

3.4 THE SURVEY RESEARCH PARADIGM

This type of research seeks to provide systematic answers to questions that are employed for descriptive and explanatory purposes. Respondents, who constitute a population or a sample of a population, are able to be canvassed for their opinions. The survey was deemed to be the most appropriate method by the researcher for this study for the following reasons:

- it adequately fulfilled the requirement for quantitative as well as qualitative data;
- it allowed for administrative convenience;
- the information sought was reasonably specific and familiar to the respondents;
- the researcher had relatively considerable knowledge of the particular problems experienced and the anticipated range of responses;
- the survey facilitates the acquisition of reports of individual respondents at a particular moment in time thereby providing an image of reality at the time;
- the respondents themselves can be valuable sources of information; and
- the survey has a distinct advantage in the structure which it provides for classifying information (Warwick & Lininger, 1975).

3.5 MEASURING INSTRUMENT

3.5.1 QUESTIONNAIRES

A perusal of the literature revealed an absence of a suitable research instrument. To this effect, questionnaires were constructed. Face validity was attained by having professionals with a keen interest in, exposure to and experience with

ADHD, read the questionnaires. Suggestions offered were incorporated into the revised versions (refer to appendices 4 & 5).

A pilot study was effected by administering the questionnaires to two teachers, within the same circuit but from a school for specialized education, who were not part of the study sample and two parents who had experience with children with ADHD. This was a worthy exercise in terms of facilitating the refinement of the questionnaires. Instructions, ambiguities, and information were amended to improve the utility value of the questionnaires. Some changes were effected. In section A, question 11 was re-designed to reflect broader categories of economic levels to facilitate ease of responding, data capturing and analysis. In section C, question 4 was re-structured to incorporate closed and open questions so as to enable respondents to substantiate their responses.

3.5.2 DESIGN

The study reflects a combination of qualitative and quantitative analysis. Survey questionnaires, in English only, were developed specifically for this study, consisting of five major sections: biographical data, diagnosis and prescription of medication (Ritalin), ADHD and Ritalin, Prescription and use of Ritalin and cultural perceptions of ADHD, medication and children / learners with ADHD. These questionnaires were presented to twenty teachers and twenty parents and caregivers, at a school for specialised education (Educating Learners with Special Education Needs: ELSEN facilities), which caters for learners with ADHD. The implications of and possible solutions for the research issues will be presented.

3.6 DETAILS COMPRISING THE QUESTIONNAIRES

3.6.1 TEACHER AND CAREGIVER QUESTIONNAIRES

Section A focused on eliciting biographical, demographic, current employment, educational and economic status and information relating to the contextual background of teachers and caregivers thereby building up a profile of the teaching staff and caregivers. These details were included to determine their impact on the knowledge and level of understanding of ADHD, accessibility to information about ADHD and cultural perceptions. Questions requiring narrative responses were included to allow for elaborations and further information.

3.6.2 TEACHER QUESTIONNAIRE

In Section A (refer to appendix 4), the following demographic details were asked of respondents:

- name of school;
- status;
- gender;
- nationality;
- population group;
- age range;
- highest level of education;
- highest qualification level;
- teaching experience (with regard to teaching learners with ADHD in the pre-primary, junior, senior primary and secondary school levels); and
- present grade being taught.

3.6.3 CAREGIVER QUESTIONNAIRE

In section A (refer to appendix 5), the following details were requested of respondents:

- name of school that their child is attending;
- status of the parent (biological or foster parent, guardian);
- gender;
- nationality;
- population group;
- age range;
- highest level of education;
- highest qualification level;
- income range; and
- present grade of child.

In both questionnaires sections B, C, D and E, which contained the same information, consisted of both open-ended and closed-ended questions. Section B focused on determining the factors that were considered salient in the diagnostic process and the management of ADHD. Section C considered teachers' and caregivers' knowledge and understanding of ADHD and the medical management thereof, with specific reference to the use of Ritalin. At the core of section D were issues relating to prescription practices, factors influencing prescription decisions, medical management issues, views about the diagnosis of ADHD, prescription of Ritalin and its perceived impact on children, monitoring considerations and general perceptions and attitudes towards the prescription of Ritalin. The final part, section E, focused on cultural views and perceptions of ADHD and Ritalin, as well as an open question permitting teachers and caregivers to include any information or concerns that they thought would be relevant to the study.

3.7 CONCLUDING REMARKS

Various techniques were employed to accumulate data relevant to this study. As random sampling was used to select the respondents, the responses received could have bias. Persons who chose to respond had various reasons for doing so, as evidenced by the researcher in the conversations and verbal feedback that transpired following the administration of the questionnaires. Considering that respondents had adequate time in which to answer the questionnaires, it is possible that their responses may be prejudiced as they could have obtained information from other sources, thereby enhancing or impacting adversely on their responses.

3.8 CONCLUSION

The prime focus of the study was to ascertain the understanding and views of teachers and caregivers of the nature and management of ADHD, with specific reference to medical management in the form of Ritalin. It was pre-empted that the questionnaire would inform the corresponding critical questions of the study. The critical questions are as follows:

- How do teachers view the prescription of Ritalin as a means of managing ADHD behaviours?
- How do caregivers view the prescription of Ritalin as a means of managing ADHD behaviours?

This chapter accentuated the methodological considerations and design of the questionnaire. Chapter four will focus on the method of data collection and analysis.

CHAPTER FOUR

METHOD OF DATA COLLECTION AND ANALYSIS OF DATA

4.1 PURPOSE OF THE STUDY

The purpose of the study was to explore the perceptions and attitudes of teachers and caregivers towards the prescription of Ritalin.

The objectives of the study are to:

1. ascertain the knowledge and understanding of teachers and caregivers of ADHD and medication management;
2. determine the factors that influence their beliefs and opinions;
3. determine how they feel about the prescription of Ritalin;
4. emphasise the role of teachers and caregivers in the medical and multi-modal management of children with ADHD.

4.2 DATA COLLECTION PROCESS

Data was collated from two sources: teachers and caregivers. Both questionnaires were distributed simultaneously, accompanied by a covering letter indicating the nature and purpose of the study, as well as a request to engage their participation and co-operation, and a note indicating the researcher's gratitude for their complicity and contribution to the study. The researcher also met with teachers personally to brief them on the purpose and rationale for conducting the study and caregivers were contacted telephonically. This also provided an opportunity for the teachers and caregivers to provide their comments and to clarify concerns that they had regarding the completion of the questionnaire.

Various strategies were employed in the data collection process in attempts to avert the possibility of relatively poor response rates that characterise studies of

this nature and to circumvent related problems pertaining to the retrieval of the questionnaires. These incorporated the handing of and collection of questionnaires from respondents, mailing of questionnaires, verbal and written reminders and telephonic follow-up. Arrangements were made with some teachers and parents to post completed questionnaires. The researcher personally collected the questionnaires from other respondents.

4.3 QUESTIONNAIRE RETURN RATE / RESPONSE RATE

The research population decided upon yielded a sample of 20 teachers (pre-primary, junior primary, senior primary, junior secondary and senior secondary levels) and 20 caregivers (parents and significant others involved in the guardianship and care of children). The total number of returns received was 95% for the caregiver cohort. Overall, this can be considered as a relatively good response. A relatively poor response of 50% was received from the teacher cohort.

4.4 ANALYSIS OF DATA

Qualitative and quantitative modes of analyses were employed in this study. Editing and coding of raw data was implemented. To this effect, a coding template was created so as to capture the cardinal coding instructions associated with each variable. Clustering of related questions and responses, labelling of variables, and numerical codes were employed to promote ease of analysis. All questions were pre-coded prior to data capture so as to facilitate the data capturing process and to reduce the number of errors in the course of data entry. In this study, differences and uniformities in perceptions, attitudes, levels of understanding and beliefs will be presented.

4.5 BREAKDOWN OF QUESTIONNAIRE

Frequencies were calculated for the sample for all questions and reported as valid percentages.

4.5.1 SECTION A: BIOGRAPHICAL DETAILS

Respondents were required to provide the following information so as to develop a profile of teachers and caregivers: status, race, age, highest level of education and qualification achieved, the number of years teaching children with ADHD and levels at which they are teaching for teachers.

Teacher questionnaire

Table 4.1 Status of teacher

FREQUENCIES: A3

	Value	Frequency	Percent	Valid Percent
Level1 Teacher	1	7	70	70.0
HOD	2	3	30	30.0
	TOTAL	10	100	100.0

Table 4.2 Race of teacher

FREQUENCIES: A6

	Value	Frequency	Percent	Valid Percent
White	3	10	100	100.0
	TOTAL	10	100	100.0

Table 4.3 Age ranges of teachers

FREQUENCIES: A7

	Value	Frequency	Percent	Valid Percent
41-50	3	5	50	50.0
51+	4	5	50	50.0
	TOTAL	10	100	100.0

Table 4.4 Highest level of education

FREQUENCIES: A8

	Value	Frequency	Percent	Valid Percent
College	2	4	40	40.0
University	3	6	60	60.0
TOTAL		10	100	100.0

Table 4.5 Number of years of experience teaching children with ADHD

FREQUENCIES: A10

	Value	Frequency	Percent	Valid Percent
0-5 years	1	1	10	10.0
11-15 years	3	2	20	20.0
16-20 years	4	3	30	30.0
20+ years	5	4	40	40.0
TOTAL		10	100	100.0

Table 4.6 Phase teaching in

MULT RESP FREQ: A11

	Value	Frequency	Percents	% of sample
Pre-primary	1	2	6.7	20.0
Reception	2	4	13.3	40.0
Senior Primary	3	5	16.7	50.0
Junior Secondary	4	1	3.3	10.0
TOTAL		12	40	

Table 4.7 Grades being taught

MULT RESP FREQ: A12

	Value	Frequency	Percents	% of sample
Pre-primary	1	1	2.5	10.0
Reception	2	1	2.5	10.0
Grade 1	3	1	2.5	10.0
2	4	2	5	20.0
3	5	3	7.5	30.0
4	6	5	12.5	50.0
5	7	1	2.5	10.0
6	8	1	2.5	10.0
Remedial	12	1	2.5	10.0
TOTAL		16	40	

An analysis of the data yielded the following:

- status: 70% of teachers were level 1 teachers and 30% were heads of departments;
- race: 100% of the sample were Whites;

- age: an equal number of teachers (50%) were located in the age ranges of 41-50 years and 51 years and over;
- the highest qualification level obtained was a University degree in teaching (60%), with the remaining 40% of teachers having a College level teaching qualification;
- as regards experience teaching learners with ADHD, 10% of teachers had 0-5 years experience, 20% had 11-15 years experience, 30% had 16-20 years experience and 40% had 20 years and more teaching experience;
- in terms of the phases being taught in, 20% of teachers were teaching in the pre-primary phase, 40% in the reception phase, 50% in the senior primary phase and 10% in the junior secondary phase.

Caregiver questionnaire

Table 4.8 Status of caregiver

FREQUENCIES: A2

	Value	Frequency	Percent	Valid Percent
Biological parent	1	14	73.7	73.7
Foster	2	2	10.5	10.5
Guardian	3	2	10.5	10.5
Sister	4	1	5.3	5.3
TOTAL		19	100	100.0

Table 4.9 Race of caregiver

FREQUENCIES: A5

	Value	Frequency	Percent	Valid Percent
Black	1	1	5.3	5.3
Indian	2	2	10.5	10.5
White	3	15	78.9	78.9
Coloured	4	1	5.3	5.3
TOTAL		19	100	100.0

Table 4.10 Age range of caregivers

FREQUENCIES: A6

	Value	Frequency	Percent	Valid Percent
31-40	2	11	57.9	57.9
41-50	3	6	31.6	31.6
51+	4	2	10.5	10.5
	TOTAL	19	100	100.0

Table 4.11 Highest level of Education of caregiver

FREQUENCIES: A7

	Value	Frequency	Percent	Valid Percent
Secondary	3	10	52.6	52.6
Technikon	4	5	26.3	26.3
College	5	2	10.5	10.5
University	6	2	10.5	10.5
	TOTAL	19	100	100.0

Table 4.12 Highest qualification of caregiver

FREQUENCIES: A8

	Value	Frequency	Percent	Valid Percent
Matric	1	10	52.6	52.6
Diploma	2	5	26.3	26.3
Bachelors Degree	3	2	10.5	10.5
Std 8	4	1	5.3	5.3
Std 9	5	1	5.3	5.3
	TOTAL	19	100	100.0

Table 4.13 Occupational activity of caregiver

FREQUENCIES: A10

	Value	Frequency	Percent	Valid Percent
Sales Representative	1	1	5.3	5.3
Admin Assistant	2	2	10.5	10.5
Manager	3	5	26.3	26.3
Occupational Therapist	4	1	5.3	5.3
Computer Service	5	1	5.3	5.3
Housemother	6	1	5.3	5.3
Housekeeping Supervisor	7	1	5.3	5.3
Bank Teller	8	1	5.3	5.3
Self-Employed	9	1	5.3	5.3
Policewoman	10	1	5.3	5.3
Pre-School Asst	11	1	5.3	5.3
Claims Consultant	12	1	5.3	5.3
Teacher	13	1	5.3	5.3
Child Care Worker	14	1	5.3	5.3
	TOTAL	19	100	100.0

Table 4.14 **Gross monthly
income of
caregiver**

FREQUENCIES: A11

	Value	Frequency	Percent	Valid Percent
< R1200	1	1	5.3	5.3
R1201-R5000	2	10	52.6	52.6
R5001+	3	8	42.1	42.1
	TOTAL	19	100	100.0

An analysis of the data revealed the following:

- status of caregiver: 73.7% of the sample were biological parents, an equal number of caregivers were foster parents and guardians (50%) and 5.3% consisted of a sibling (sister) as a caregiver;
- race: Blacks constituted 5.3% of the sample, Indians comprised 10.5%, there were 78.9% Whites and 5.3% Coloureds;
- in terms of the highest level of education obtained, 52.6% of caregivers had matric, 26,3% had diplomas, 10.5% had university undergraduate degrees, and an equal number (5.3%) had completed grades 10 and 11;
- occupational activities were wide-ranging – figures for these are: 5.3% for sales representatives, 10.5% were administration assistants, 26.3% were in managerial positions, with an equal percentage being indicated for each of the following: occupational therapist, computer service, housemother, housekeeping supervisor, bank teller, self-employment, policewoman, pre-school assistant, claims consultant, teacher and child care worker;
- gross monthly income: 5.3% of caregivers earned less than R1200 per month (low income bracket), 52.6% earned within the R1 201- R5000 range (middle income bracket) and 42.1% earned over R5 001 (upper income bracket), thereby indicating that the majority of caregivers fall in the middle income bracket;
- grade which child attends: an equal percentage (1.8%) was indicated for children in each of the following levels – reception, grades 5, 8, 9, with 3.5% being indicated for each of these - grades

1, 2, 4, and 7. A figure of 7% each was indicated for grades 3 and 6.

4.5.2 SECTION B: DIAGNOSIS OF ADHD AND PRESCRIPTION OF MEDICATION (RITALIN)

This section focused on eliciting information pertaining to issues relating to diagnosis of ADHD, as well as prescription of Ritalin.

4.5.2.1 PROFESSIONALS INVOLVED IN THE DIAGNOSIS OF ADHD

According to teachers' responses, 10% of the sample indicated that diagnosis of ADHD was made by general practitioners, 40% indicated paediatricians and 20% indicated psychiatrists.

Caregivers provided the following responses: 21.1% indicated that general practitioners effected the diagnosis of ADHD, 73.7% reported that the diagnosis was made by paediatricians, 21.1% stated that neurologists made the diagnosis, 5.3% each indicated that the psychiatrist and occupational therapist effected the diagnosis.

4.5.2.2 FORMAL DIAGNOSIS OF ADHD

- **Has a formal diagnosis been made regarding the child's condition?**

In terms of formal diagnosis, 33.3% of teachers indicated that a formal diagnosis of ADHD had not been effected regarding ADHD, with 66.7% reporting that a formal diagnosis had been effected.

All caregivers (100%) who responded indicated that a formal diagnosis of ADHD had been made.

4.5.2.3 BASIS ON WHICH DIAGNOSIS WAS MADE

- On what basis was the diagnosis made?

Caregivers indicated that diagnosis was made in terms of the following: observation of behaviour (57.9%), teachers' reports (84.2%), school reports (42.1%), parent reports (42.1%), neurological examination (31.6%), paediatric examination (73.7%), specialist panel consisting of an educational psychologist, occupational therapist, speech and hearing therapist, physiotherapist and paediatrician (10.5%) and occupational therapist's report (5.3%).

4.5.2.4 PROCESSES FOLLOWED AND PROFESSIONALS CONSULTED PRIOR TO PRESCRIPTION OF RITALIN

Prior to the prescription of Ritalin, caregivers indicated that the child had been to the following professionals: occupational therapist (5.3%), paediatrician and general practitioner (57.9%), psychologist (36.8%), teacher (57.9%), and neurosurgeon (neurologist) (10.5%). Dietary changes were indicated by 10.5% of the sample, with extra tuition being reported by 5.3% of caregivers.

4.5.2.5 REASONS FOR RITALIN USAGE

Table 4.15. Reasons for Ritalin usage: Caregivers

MULT FREQ RESP: B5

	Value	Frequency	Percents	% of sample
Poor Concentration / ADD	1	11	7.2	57.9
Poor Language skills	2	1	0.7	5.3
Poor listening skills	3	1	0.7	5.3
Recommended by school	4	1	0.7	5.3
Easily distracted	5	1	0.7	5.3
Hyperactivity /ADHD	6	6	3.9	31.6
Learning disability	7	1	0.7	5.3
Recommended by psychologist	8	1	0.7	5.3
TOTAL		23	15.3	

With regard to reasons for the use of Ritalin, caregivers indicated that Ritalin ameliorates the following: poor concentration and ADD (57.9%), learning language skills (5.3%), poor listening skills (5.3%), hyperactivity/ADHD (31.6%),



distractibility (5.3%) and learning disabilities (5.3%). Other reasons were that Ritalin was recommended by the school (5.3%) and psychologist (5.3%).

4.5.2.6 DURATION OF PRESCRIPTION AND USAGE

Table 4.16 Duration of prescription and usage: Caregivers

FREQUENCIES: B12

	Value	Frequency	Percent	Valid Percent
< year	1	4	21.1	21.1
1-2 yrs	2	3	15.8	15.8
2-3 yrs	3	2	10.5	10.5
4 yrs	4	8	42.1	42.1
6 yrs	6	1	5.3	5.3
7 yrs	7	1	5.3	5.3
	TOTAL	19	100	100.0

As regards the period for which Ritalin was prescribed, caregivers indicated the following time periods: less than a year (21.1%), 1-2 years (15.8%), 2-3 years (10.5%), 4 years (42.1%), 6 years (5.3%) and 7 years (5.3%).

4.5.2.7 PROFESSIONALS INVOLVED IN THE PRESCRIPTION OF MEDICATION

Table 4.17 Professionals who prescribed the medication: Caregivers

MULTI FREQ RESP: B10

	Value	Frequency	Percents	% of sample
GP	1	6	10.5	31.6
Paediatrician	2	13	22.8	68.4
Psychiatrist	3	1	1.8	5.3
	TOTAL	20	35.1	

Caregivers provided the following responses with regard to the professionals who prescribed the medication (Ritalin): general practitioners (31.6%), paediatrician (68.4%) and psychiatrist (5.3%).

4.5.2.8 PROFESSIONALS WHO HAVE CONTINUED TO PRESCRIBE MEDICATION

Caregivers indicated that the following professionals have continued to prescribe medication (Ritalin): general practitioner (33.3%), paediatrician (55.6%) and psychiatrist (11.1%).

4.5.2.9 REASONS FOR DISCONTINUATION OF RITALIN

4.18 Reasons for discontinuation of Ritalin: Caregivers

FREQUENCIES: B13

	Value	Frequency	Percents	Valid Percents
Child became irritable, tired & lethargic	1	1	1.1	14.3
Parent & School felt use of Ritalin no longer necessary	2	2	2.1	28.6
No improvement in schoolwork	3	1	1.1	14.3
Side-Effects	4	1	1.1	14.3
Used during exam period only	5	2	2.1	28.6
TOTAL		7	7.5	100.0

The following responses were reported for the discontinuation of medication (Ritalin): irritability, fatigue and lethargy experienced by the child (14.3%), parents and the school felt that Ritalin was no longer necessary (28.6%), lack of improvement in schoolwork (14.3%), side-effects (14.3%) restricted use (during examination period) (28.6%).

4.5.2.10 ALTERNATIVES TO MEDICATION

4.19 Alternatives to medication: Caregivers

FREQUENCIES: B14

	Value	Frequency	Percent	Valid Percent
Yes	1	5	26.3	26.3
No	2	14	73.7	73.7
TOTAL		19	100	100.0

Respondents were asked whether alternatives to medication or alternative medication had been tried. The following responses were obtained: 26.3% indicated that alternatives to medication had been tried, with 73.7% indicating that just Ritalin had been used. Alternatives that had been tried consisted of

Sportron (20%), herbal and natural products (60%) and Schizandra Royale (20%).

4.5.3 SECTION C: KNOWLEDGE AND UNDERSTANDING OF ADHD AND RITALIN

This section emphasized teachers' and caregivers' understanding of what constitutes ADHD, factors influencing their understanding of this condition, eliciting their views about the use of Ritalin as a management option for children with ADHD, the extent of their knowledge regarding ADHD and Ritalin and initiatives taken to enhance their knowledge of ADHD and Ritalin. The aforementioned were based on the assumption that respondents were familiar with the association of ADHD and Ritalin prescription.

4.5.3.1 KNOWLEDGE AND UNDERSTANDING OF ADHD

Table 4.20.1 Knowledge and understanding of ADHD: Teachers

MULT RESP FREQ: C1

	Value	Frequency	Percents	% of sample
Lack of certain enzymes/neurological dysfunction	1	3	7.5	30.0
Inability to concentrate & focus on tasks at hand	2	7	17.5	70.0
Easily distracted	4	2	5	20.0
Hyperactivity	5	8	20	80.0
Impulsive behaviour	7	5	12.5	50.0
Restlessness	8	2	5	20.0
	TOTAL	27	67.5	

On the basis of the information received, the following response patterns emerged with regard to teachers' knowledge and understanding of ADHD:

- 30% of responses indicated that ADHD can be attributed to a lack of certain neurochemicals and neurological dysfunction;
- 70% of responses reflected the inability to focus and concentrate on tasks at hand;

- 20% of the sample indicated distractibility being indicative of ADHD;
- 80% cited hyperactivity as an identifying factor;
- 50% reported impulsive behaviour as being characteristic of ADHD;
- 20% indicated restlessness as being associated with ADHD.

Table 4.20.2 Knowledge and understanding of ADHD: Caregivers

MULT FREQ RESP: C1

	Value	Frequency	Percents	% of sample
Lack of certain enzymes/neurological dysfunction	1	2	1.5	10.5
Inability to concentrate & focus on tasks at hand	2	13	9.8	68.4
Learning disability	3	2	1.5	10.5
Easily distracted	4	2	1.5	10.5
Hyperactivity	5	9	6.8	47.4
Psychological disorder	6	1	0.8	5.3
Impulsive behaviour	7	1	0.8	5.3
TOTAL		30	22.7	

The caregiver cohort indicated that ADHD is characterized by the following: lack of certain enzymes or neurological dysfunction (10.5%), inability to concentrate and focus on tasks at hand (68.4%), learning disability (10.5%), distractibility (10.5%), hyperactivity (47.4%), psychological disorder (5.3%) and impulsive behaviour (5.3%).

* Please note that respondents may have indicated more than one response.

4.5.3.2 WAYS IN WHICH TEACHERS AND CAREGIVERS ARRIVED AT THEIR UNDERSTANDING OF ADHD

Table 4.21.1 Ways in which teachers arrived at their understanding of ADHD

MULT RESP FREQ: C2

	Value	Frequency	Percents	% of sample
Word of mouth/Discussion with other people	3	2	6.7	20.0
Reading & Research	4	7	23.3	70.0
Working with ADHD children	6	5	16.7	50.0
Paediatrician/doctor	8	1	3.3	10.0
Media	10	1	3.3	10.0
Lecture/Seminar	11	1	3.3	10.0
TOTAL		17	56.6	

Response patterns characterizing teachers' attempts to enhance their personal and professional understanding of ADHD revealed the following:

- 20% of the sample indicated word of mouth and discussions as being pertinent;
- 70% reflected research and reading as being influential;
- 50% cited experience in the form of working with children with ADHD as being helpful;
- 10% indicated that medical practitioners (paediatricians and general practitioners provided some information);
- 10% obtained information from the media;
- 10% reported attendance at lectures and presentations as an option.

Table 4.21.2 Ways in which caregivers arrived at their understanding of ADHD

MULT RESP FREQ: C2

	Value	Frequency	Percents	% of sample
Easily distracted	1	1	0.6	5.3
Poor concentration	2	1	0.6	5.3
Word of mouth/Discussion with other people	3	5	2.9	26.3
Reading & Research	4	7	4.1	36.8
Various Medical Staff	5	1	0.6	5.3
Working with ADHD children	6	2	1.2	10.5
Teacher/School	7	2	1.2	10.5
Paediatrician/doctor	8	8	4.7	42.1
Psychologist	9	1	0.6	5.3
TOTAL		28	16.5	

Caregivers indicated that they had arrived at their understanding of ADHD in the followings ways: experience with children who were easily distractible and had poor concentration (5.3% each), word of mouth and through discussions with other people (26.3%), engaging in reading and research (36.8%), consultations with various medical professionals (5.3%), working with children with ADHD (10.5%), interactions with school staff (10.5%), consultations with paediatricians and general practitioners (42.1%) as well as psychologists (5.3%).

* Please note that respondents may have indicated more than one option.

4.5.3.3 TREATMENT OF ADHD

- Do you think that ADHD is “treatable”?

Teachers and caregivers were asked to indicate whether ADHD is “treatable” and to substantiate their responses. Ninety percent of the teachers revealed that they thought ADHD is “treatable”, with 10% being in disagreement. As regards caregivers, 86.7% indicated that ADHD is “treatable” with 13.3% providing a negative response. Motivations for the chosen responses of teachers and caregivers are indicated in the following tables.

4.5.3.4 MOTIVATIONS FOR THE “TREATMENT” OF ADHD

Table 4.22.1 Motivations for the “treatment” of ADHD: Teachers

MULT RESP FREQ: C3EXP

	Value	Frequency	Percents	% of sample
By helping & teaching child to cope with disorder	1	2	4	20.0
With medication eg Ritalin	4	9	18	90.0
By understanding of disorder	5	1	2	10.0
Behaviour Management	7	2	4	20.0
Diet control/adjustment	8	2	4	20.0
With herbal remedies	9	1	2	10.0
By teaching parents how to cope with stress	10	1	2	10.0
TOTAL		18	36	

Table 4.22.2 Motivations for the “treatment” of ADHD: Caregivers

MULT RESP FREQ: C3EXP

	Value	Frequency	Percents	% of sample
By helping & teaching child to cope with disorder	1	3	2	15.8
With lots of love and care	2	1	0.7	5.3
With medication e.g. Ritalin	4	11	7.3	57.9
By understanding of disorder	5	2	1.3	10.5
With occupational Therapy	6	1	0.7	5.3
Not Sure	11	2	1.3	10.5
Artificial alteration to behaviour will not result in any significant permanent positive change	12	1	0.7	5.3
TOTAL		21	14	

*Please note that respondents may have provided more than one answer.

Teachers offered the following responses in support of the treatment of ADHD:

- children could be helped and taught to cope with the disorder (20%);

- ADHD could be treated with medication such as Ritalin (90%);
- ADHD could be “treated” by enabling an understanding the disorder (10%);
- behavioural techniques (behaviour management) could be employed (20%);
- dietary adjustments could be effected (20%);
- alternative “treatments” in the form of herbal remedies could be used (10%);
- parent education (how to cope with stress) could be instituted (10%).

Caregivers provided the following responses: 15.8% indicated that ADHD could be “treated” by helping and teaching the child to cope with ADHD, 5.3% believe that children with ADHD should be given an abundance of love and care, 57.9% indicated drug therapy with Ritalin, 10.5% stated that having an understanding of ADHD facilitated treatment, 5.3% indicated that occupational could play a role in the treatment of ADHD, 10.5% were not sure as to whether ADHD is “treatable”, and 5.3% indicated “treatment” in the form of any artificial alteration to behaviour will not result in any significant permanent positive change.

4.5.3.5 RITALIN AS A SUITABLE MEANS OF MANAGING CHILDREN / LEARNERS WITH ADHD

- Do you consider Ritalin to be a suitable means of managing children/learners with ADHD?

Table 4.23.1 Ritalin as a suitable means of managing children with ADHD: Teachers

FREQUENCIES: C4

	Value	Frequency	Percent	Valid Percent
Yes	1	9	90	90.0
No	2	1	10	10.0
	TOTAL	10	100	100.0

Table 4.23.2 Ritalin as a suitable means of managing children with ADHD: Caregivers

FREQUENCIES: C4

	Value	Frequency	Percent	Valid Percent
Yes	1	17	89.5	89.5
No	2	2	10.5	10.5
	TOTAL	19	100	100.0

Responses indicated that 90% of teachers were in favour of Ritalin being a suitable means of managing children with ADHD, with 10% indicating disagreement.

The responses of caregivers were as follows: 89.5% of caregivers were in favour of Ritalin being a suitable means of managing children with ADHD, with 10.5% being in disagreement.

4.5.3.6 MOTIVATIONS FOR THE SUITABILITY OF RITALIN IN THE MANAGEMENT OF CHILDREN WITH ADHD

Table 4.24.1 Motivations for the suitability of Ritalin in the management of children with ADHD: Teachers

MULT RESP FREQ: C4EXP

	Value	Frequency	Percents	% of sample
Helps child to cope & gain self-confidence	1	4	10	40.0
Improves level of concentration	2	3	7.5	30.0
Improves behaviour	3	2	5	20.0
Improves learning/schoolwork	4	2	5	20.0
No studies to confirm effect on academic work & social behaviour	11	1	2.5	10.0
Many side-effects (Hypersensitivity, fever, Dermatitis, headaches, etc)	12	1	2.5	10.0
Easy to administer & effective medication	13	2	5	20.0
	TOTAL	15	37.5	

Motivations in favour of the management of ADHD with Ritalin include the following:

- Ritalin helps children to cope and gain confidence (40% of the sample);
- it improves concentration levels (30%);
- behaviour improves (20%);

- Ritalin improves the ability to learn and the quality of schoolwork (20%);
- medication (Ritalin) is easily and effectively administered (20%).

Teachers in disagreement with the “treatment” of ADHD indicated that:

- there were no studies to confirm the effect of medical treatment on academic work and social behaviour; and that medical “treatment” had numerous side-effects such as hypersensitivity, fever, dermatitis, headaches.

Table 4.24.2 Motivations for the suitability of Ritalin in the management of children with ADHD: Caregivers

MULT RESP FREQ: C4EXP

	Value	Frequency	Percents	% of sample
Helps child to cope & gain self-confidence	1	4	2.3	21.1
Improves level of concentration	2	9	5.3	47.4
Improves learning/schoolwork	4	3	1.8	15.8
Must have "right" psychological approach	5	2	1.2	10.5
Must understand disorder	6	2	1.2	10.5
Must closely monitor children on Ritalin	7	1	0.6	5.3
Against drugs	8	2	1.2	10.5
More for the benefit of teachers & school system	9	1	0.6	5.3
Prefer natural /homeopathic remedies	10	1	0.6	5.3
TOTAL		25	14.8	

Caregivers who considered Ritalin to be suitable in the management of children with ADHD provided the following responses: 21.1% reported that Ritalin helps the child to cope and thereby gain self-confidence, while 47.4% indicated that Ritalin improves concentration levels and learning or schoolwork (15.8%). Respondents not in favour of the use of Ritalin indicated the following: 10.5% believe that people must have the “right” psychological approach to management of ADHD, 10.5% favour an understanding of the disorder over the use of Ritalin, 5.3% reported the lack of close monitoring of children on Ritalin as a concern, 10.5% indicated that they were in opposition to the use of drugs, 5.3% stated that Ritalin was more for the benefit of teachers and the school system than for children with ADHD and 5.3% showed an inclination towards natural and homeopathic remedies.

* Please note that respondents may have indicated more than one response.

4.5.3.7 PROVISION OF INFORMATION REGARDING ADHD

With regard to whether adequate information had been provided regarding ADHD, 80% of teachers indicated that they had been provided with adequate information about ADHD, and 20% indicated that they had not been provided with sufficient information.

Caregivers reported the following: 42.1% stated that they had been provided with suitable information about ADHD, and the majority (57.9%) indicated that they did not have sufficient information.

4.5.3.8 PROVISION OF ADEQUATE INFORMATION REGARDING THE MANAGEMENT OF CHILDREN WITH ADHD

Seventy percent of teachers indicated that they had been provided with sufficient information about the management of children with ADHD, while 30% indicated that they had not been provided with this information.

The responses of caregivers were as follows: 38.8% stated that they had been given adequate information, while 63.2%, which accounts for the majority of caregivers, reported that they had not been given sufficient information.

4.5.3.9 PROVISION OF INFORMATION PERTAINING TO THE PRESCRIPTION AND USE OF RITALIN

Table 4.25.1 Provision of information pertaining to the prescription and use of Ritalin: Teachers

FREQUENCIES: C7

	Value	Frequency	Percent	Valid Percent
Yes	1	6	60	60.0
No	2	4	40	40.0
	TOTAL	10	100	100.0

Table 4.25.2 Provision of information pertaining to the prescription and use of Ritalin: Caregivers

FREQUENCIES: C7

	Value	Frequency	Percent	Valid Percent
Yes	1	12	63.2	63.2
No	2	7	36.8	36.8
	TOTAL	19	100	100.0

Sixty percent of teachers reported that adequate information had been provided regarding the prescription and use of Ritalin, with 40% indicating that they had not been provided with sufficient information.

Caregivers reported the following: 63.2% had received information pertaining to the prescription and use of Ritalin, with 36.8% indicating that they had not received any information.

4.5.3.10 ATTEMPTS TO ACQUIRE INFORMATION AND TO ENHANCE EXISTING KNOWLEDGE OF ADHD

All the teachers who responded (100%) indicated that they had made attempts to acquire information about ADHD and to enhance their knowledge.

The following information was received pertaining to caregivers' responses:

78.9% of caregivers had endeavoured to acquire information about ADHD and to enhance their knowledge and 21.1% had not made any attempts to do so.

4.5.3.11 INITIATIVES UNDERTAKEN TO ENHANCE PERSONAL AND PROFESSIONAL KNOWLEDGE AND UNDERSTANDING OF ADHD

Following from question C8, respondents were required to indicate what attempts they had made to enhance their knowledge and understanding of ADHD. The following responses were obtained from teachers: 80% of the sample had attended workshops. 30% had gone to conferences, 70% had attended seminars, all the respondents (100%) indicated having consulted reading material, 10% had attended support groups, 20% of the sample had enhanced their understanding of ADHD through networking, discussions with friends and

word of mouth, 20% had obtained information from media reports, while 10% had obtained information from a medical professional (psychiatrist).

Caregivers afforded the following responses as initiatives that were undertaken to enhance their personal and professional knowledge: workshops (31.6%), conference attendance (15.8%), attendance at seminars (10.5%), reading (89.5%), attending support groups (36.8%), networking, discussions with friends and word of mouth (21.1%), accessing electronic media (26.3%), consultations with paediatricians and doctors (15.8%), and from the Internet and psychiatrist (5.3% for each).

Please note that respondents may have provided more than one response.

4.5.3.12 KNOWLEDGE ABOUT RITALIN

Table 4.26.1 Knowledge about Ritalin: Teachers

MULT RESP FREQ: C10

	Value	Frequency	Percents	% of sample
Drug to calm down children who are unmanageable	2	2	5	20.0
Schedule 7 drug	3	6	15	60.0
Not addictive	4	2	5	20.0
Drug to improve concentration	6	2	5	20.0
Has side-effects	7	3	7.5	30.0
Drug to counteract chemical imbalance in brain	8	3	7.5	30.0
Experience	9	1	2.5	10.0
	TOTAL	19	47.5	

Table 4.26.2 Knowledge about Ritalin: Caregivers

FREQUENCIES: C10

	Value	Frequency	Percent	Valid Percent
Drug to calm down children who are unmanageable	2	2	10.5	16.7
Schedule 7 drug	3	5	26.3	41.7
Drug to improve concentration	6	3	15.8	25.0
Drug to counteract chemical imbalance in brain	8	2	10.5	16.7
	TOTAL	7	36.8	MISSING
		19	100	100.0

* Please note that respondents may have included more than one response.

Teachers were asked to indicate what they knew about Ritalin. The following responses emerged: 20% of the sample indicated that Ritalin is a drug that has

a calming effect on children who display unmanageable behaviours, 60% reported that it is a schedule seven drug, 20% indicated that Ritalin is not addictive, 20% maintained that it is a drug that improves concentration, 30% reported that it had side-effects, 30% referred to Ritalin as a drug that counteracts cerebral chemical imbalances and 10% indicated that they became acquainted with Ritalin through their personal and work experiences. Caregivers indicated the following: Ritalin is a drug that has a calming effect on children who display unmanageable behaviours (16.7%), it is a schedule seven drug (41.7%), it is a drug that improves concentration (25%), and Ritalin is a drug that counteracts the imbalance of neurological chemicals.

4.5.3.13 SOURCES FROM WHICH INFORMATION ABOUT RITALIN WAS ACQUIRED

Table 4.27.1 Sources from which information about Ritalin was acquired: Teachers

MULT RESP FREQ: C11

	Value	Frequency	Percents	Valid Percents
Workshops	1	4	8	40.0
Conference	2	3	6	30.0
Seminars	3	4	8	40.0
Reading Material	4	8	16	80.0
Networking/Friends/Word of mouth	6	1	2	10.0
Electronic Media	7	2	4	20.0
Experience	12	2	4	20.0
	TOTAL	24	48	100.0

Table 4.27.2 Sources from which information about Ritalin was acquired: Caregivers

MULT RESP FREQ: C11

	Value	Frequency	Percents	% of sample
Workshops	1	4	1.8	21.1
Conference	2	1	0.4	5.3
Reading Material	4	10	4.4	52.6
Support groups	5	4	1.8	21.1
Networking/Friends/Word of mouth	6	2	0.9	10.5
Electronic Media	7	1	0.4	5.3
Teachers/School	8	3	1.3	15.8
Info from paediatrician/doctor	9	7	3.1	36.8
Psychologist	10	1	0.4	5.3
Experience	12	3	1.3	15.8
Internet	13	1	0.4	5.3
Psychiatrist	14	1	0.4	5.3
	TOTAL	38	16.6	

* Please note that respondents may have included more than one response.

In terms of the sources employed in the acquisition of knowledge about Ritalin, teachers indicated the following: 40% had gleaned information from workshops, 30% had attended conferences, 40% had gone to seminars, 80% had consulted reading material, 10% had obtained information through networking, discussions with friends and word of mouth, 20% had made use of the electronic media, and 20% had acquired the information through experience.

Caregivers indicated that they had acquired their knowledge about Ritalin from the following: reading material (52.6%), support groups (21.1%), networking, friends and word of mouth (10.5%), electronic media (5.3%), teachers and school (15.8%), information provided by paediatricians and general practitioners (36.8%), psychologist (5.3%), experience (5.3%), Internet (5.3%) and the psychiatrist (5.3%).

4.5.4 SECTION D: PRESCRIPTION AND USE OF RITALIN

This section sought to explore issues relating to the prescription and use of Ritalin. Reasons for the prescription and use of Ritalin, factors influencing prescription decisions and considerations, views and perceptions pertaining to medical management were solicited.

4.5.4.1 CONSIDERATIONS PERTAINING TO THE PRESCRIPTION AND USE OF RITALIN

- When should the prescription and use of Ritalin be considered?

Table 4.28.1 When should the prescription and use of Ritalin be considered?: Teachers

MULT RESP FREQ: D1

	Value	Frequency	Percents	% of sample
When child does not cope, is under pressure & it affects his/her personality & confidence	1	3	7.5	30.0
When child is unmanageable/hyperactive	2	6	15	60.0
Poor concentration	3	5	12.5	50.0
When child's school work is affected	4	4	10	40.0
When child is impulsive	5	2	5	20.0
As a last resort after other methods have been tried	7	1	2.5	10.0
TOTAL		21	52.5	

Table 4.28.2 When should the prescription and use of Ritalin be considered?: Caregivers

MULT RESP FREQ: D1

	Value	Frequency	Percents	% of sample
When child does not cope, is under pressure & it affects his/her personality & confidence	1	2	1.2	10.5
When child is unmanageable/hyperactive	2	5	2.9	26.3
Poor concentration	3	3	1.8	15.8
When child's schoolwork is affected	4	1	0.6	5.3
When child is impulsive	5	1	0.6	5.3
ADD	6	1	0.6	5.3
As a last resort after other methods have been tried	7	2	1.2	10.5
When advised by professional	8	3	1.8	15.8
Should not be prescribed	9	1	0.6	5.3
TOTAL		19	11.3	

* Please note that more than one response may have been indicated.

For question D1 respondents were required to indicate when the prescription and use of Ritalin should be considered.

Teachers indicated the following: 30% of the sample indicated that Ritalin should be prescribed and used when a child is not able to cope with schoolwork, is under pressure and when these affect his or her personality and diminish his or

her confidence. Sixty percent believed Ritalin should be prescribed when the child displays unmanageable behaviours or is hyperactive, 50% thought Ritalin should be used when the child has poor concentration, 40% indicated that Ritalin should be prescribed when a child's work has been affected adversely, 20% thought it should be prescribed to curb impulsivity and 10% reported it should be employed as a last resort after other management methods have been tried.

Caregivers indicated that Ritalin should be considered in the following instances: when the child is not able to cope with schoolwork and is under pressure which in turn affects his or her personality and confidence adversely (10.5%), when the child manifests unmanageable and hyperactive behaviours (26.3%), when the child's schoolwork is affected negatively (5.3%), when the child behaves in an impulsive manner (5.3%), for ADD, (5.3%), as a last resort after methods have been tried (10.5%) and when advised by a professional (15.8%). Just 5.3% of the sample indicated that Ritalin should not be considered and prescribed.

4.5.4.2 REASONS FOR THE PRESCRIPTION OF RITALIN

Table 4.29.1 Reasons for the prescription of Ritalin: Teachers

MULT RESP FREQ: D2

	Value	Frequency	Percents	% of sample
For Hyperactive children/ADHD	1	10	25	100.0
To improve concentration	2	6	15	60.0
To control impulsivity	4	2	5	20.0
ADD	5	7	17.5	70.0
To improve learning disability	6	1	2.5	10.0
TOTAL		26	65	

Table 4.29.2 Reasons for the prescription of Ritalin: Caregivers

MULT RESP FREQ: D2

	Value	Frequency	Percents	% of sample
For Hyperactive children/ADHD	1	10	7.5	52.6
To improve concentration	2	8	6	42.1
To improve listening skills	3	2	1.5	10.5
To control impulsivity	4	1	0.8	5.3
ADD	5	2	1.5	10.5
To improve learning disability	6	4	3	21.1
Should not be prescribed	7	1	0.8	5.3
TOTAL		28	21.1	

* Please note that more than one response may have been provided.

The above tables indicate responses pertaining to what Ritalin should be prescribed for.

The teachers who responded (100%) indicated it is prescribed for hyperactive children or children with ADHD, of which 60% indicated it improved concentration, 20% reported it controlled impulsivity, 70% believed it is prescribed for ADD, and 10% thought it improved learning disabilities.

Caregivers indicated Ritalin should be prescribed for the following reasons: to curb hyperactivity and for children with ADHD (52.6%), to improve concentration (42.2%), to improve listening skills (10.5%), to control impulsivity (5.3%), to manage ADD (10.5%) and to improve learning disabilities (21.1%). Some respondents not in favour of drug therapy indicated that Ritalin should not be prescribed (5.3%).

4.5.4.3 WHO SHOULD EFFECT DECISIONS PERTAINING TO PRESCRIPTION OF RITALIN

Table 4.30.1 Who should effect decisions pertaining to the prescription of Ritalin: Teachers

MULT RESP FREQ: D3

	Value	Frequency	Percents	% of sample
Parent	1	3	7.5	30.0
Teacher	2	3	7.5	30.0
GP	3	2	5	20.0
Paediatrician	4	10	25	100.0
TOTAL		18	45	

Table 4.30.2 Who should effect decisions pertaining to the prescription of Ritalin: Caregivers

MULT RESP FREQ: D3

	Value	Frequency	Percents	% of sample
Parent	1	7	6.1	36.8
Teacher	2	8	7	42.1
GP	3	3	2.6	15.8
Paediatrician	4	12	10.5	63.2
Panel (including Teacher, paediatrician & Education specialist)	5	1	0.9	5.3
Psychiatrist	6	2	1.8	10.5
TOTAL		33	28.9	

Thirty percent of the sample believed that parents should decide whether Ritalin should be prescribed, 30% indicated that teachers should effect this decision, 20% reported that general practitioners should decide whether Ritalin should be prescribed and 100% indicated that paediatricians should make the decision. Caregivers indicated that the following people should decide whether to prescribe medication: parents (36.8%), teachers (42.1%), general practitioner (15.8%), paediatrician (63.2%), interdisciplinary team (5.3%) and psychiatrist (10.5%).

4.5.4.4 REASONS INFLUENCING DECISIONS REGARDING THE PRESCRIPTION OF RITALIN

Table 4.31.1 Reasons influencing decisions regarding the prescription of Ritalin: Teachers

MULT RESP FREQ: D4

	Value	Frequency	Percents	% of sample
Teachers know the child well. Could assist in assessment and suggest that child be seen by paediatrician/send report to paediatrician	1	2	10	20.0
All concerned should communicate with each other and decide on prescription	2	4	20	40.0
Should be medical professional who takes into consideration EEG & reports by school, parents & therapist before prescribing. Must monitor progress regularly and exercise control.	3	6	30	60.0
TOTAL		12	60	

Table 4.31.2 Reasons influencing decisions regarding the prescription of Ritalin: Caregivers

FREQUENCIES: D4

	Value	Frequency	Percents	Valid Percents
Teachers know the child well. Could assist in assessment and suggest that child be seen by paediatrician/send report to paediatrician	1	5	6.6	29.4
All concerned should communicate with each other and decide on prescription	2	2	2.6	11.8
Should be medical professional who takes into consideration EEG & reports by school, parents & therapist before prescribing. Must monitor progress regularly exercise - control.	3	9	11.8	52.9
Parents must have final say	4	1	1.3	5.9
	TOTAL	17	22.3	100.0

Twenty percent of the sample indicated that teachers know the children well and they could assist in the assessment and referral processes by providing the paediatrician with a report of the child's presenting problems, 40% indicated that all individuals concerned should liaise with each other and that the decision to prescribe Ritalin should be jointly made. The majority (60%) indicated that the medical professional should undertake the prescription of Ritalin after considering electroencephalogram (EEG) results, reports by school staff, parents and therapists and monitoring and regulation of Ritalin.

Caregivers indicated the following: teachers know the child well and could assist in the assessment by providing the paediatrician with a report of the child's functioning in the school environment and the child should be examined by a paediatrician (29.4%), all persons concerned should communicate with each other and take a decision collectively (11.8%), the medical professional should consider EEG findings and reports from the school staff, parents and therapists as well as monitoring and regulation of Ritalin prior to its prescription, 5.9% indicated that the parents must have the final say.

4.5.4.5 FACTORS INFLUENCING DECISIONS REGARDING THE PRESCRIPTION OF RITALIN

- What factors have influenced your decision regarding the prescription or non-prescription of Ritalin?

Table 4.32.1 Factors influencing decisions regarding the prescription of Ritalin: Teachers

MULT RESP FREQ: D5

	Value	Frequency	Percents	% of sample
To help child concentrate	1	2	4	20.0
To improve schoolwork & stimulate learning	2	5	10	50.0
To improve behaviour	6	1	2	10.0
To improve quality of life for child	7	5	10	50.0
Loss of appetite	8	1	2	10.0
Lethargy	9	1	2	10.0
Incorrect prescription of drug	10	1	2	10.0
Reading	11	2	4	20.0
Experience	12	2	4	20.0
	TOTAL	20	40	

Table 4.32.2 Factors influencing decisions regarding the prescription of Ritalin: Caregivers

FREQUENCIES: D5

	Value	Frequency	Percents	Valid Percents
To help child concentrate	1	5	3.3	26.3
To improve schoolwork & stimulate learning	2	3	2	15.8
OT assessment & feedback	3	1	0.7	5.3
Paediatrician/Medical professional	4	3	2	15.8
Teacher/School	5	2	1.3	10.5
To improve behaviour	6	1	0.7	5.3
To improve quality of life for child	7	3	2	15.8
Experience	12	1	0.7	5.3
	TOTAL	19	12.7	100.0

* Please note that respondents may have indicated more than one response.

Teachers in favour of the prescription of Ritalin indicated the following: 20% of the sample reported that because Ritalin assisted children to concentrate, it should be prescribed. Fifty percent indicated that it improved schoolwork and stimulated learning, while 10% cited an improvement in behaviour as a deciding factor. Fifty percent reported that Ritalin would be able to improve the quality of life of the child with ADHD. Respondents against the prescription of Ritalin indicated the following: an equal number (10% each) cited loss of appetite,

lethargy and incorrect prescription of Ritalin as influential factors. An equal number (20%) cited reading and personal experience as factors affecting the prescription of Ritalin.

Caregivers suggested the following as being influential in the decision taken to have Ritalin prescribed: to help the child concentrate (26.3%), to improve the quality of schoolwork and stimulate the learning process (15.8%), the results and feedback pertaining to the assessment carried out by the occupational therapist (5.3%), and the opinion of the medical professional (15.8%).

In terms of financial viability, the respondents indicated the following: 57.1% of teachers reported that Ritalin is affordable as compared with 47.1 % of caregivers and 42.95% of teachers as compared with 52.9% of caregivers communicated that it is not affordable.

Responses to question D7, which considered the accessibility and availability of Ritalin, indicated that 90% of teachers think that Ritalin is easily accessible with 10% indicating that it is not. Caregivers indicated the following: 52.6% reported that Ritalin is easily available, while 47.4 % stated that it is not.

4.5.4.6 YOUNGEST AGE AT WHICH RITALIN SHOULD BE PRESCRIBED

Ten percent of the teachers who responded reported that Ritalin should be prescribed for children in the 4-5years age range, 40% reported effecting prescription in the 5-6 years age range, 20 % advocating prescription for the 6-7 years age range and a further 20% indicating it should be prescribed in the 7-8 years age range. Ten percent of the sample did not indicate a response.

The following percentages of caregivers reported that Ritalin should be prescribed for children in the designated age ranges: 11.8% for the 4-5 years age range, 23.5% for the 5-6 years age range, 41.2% for the age range 7-8 years and 5.9% for other ages.

4.5.4.7 REASONS FOR THE PRESCRIPTION OF RITALIN DURING THE AGE RANGES REFLECTED

With regard to reasons for the prescription of Ritalin during the age ranges reflected, responses received are as follows: 11.1% of teachers believe that since preschoolers are developing basic concepts that provide the foundation for later learning, Ritalin should be prescribed for preschoolers with ADHD as it makes them receptive to learning; 44.4% believed that young children are naturally very active and those with high activity levels would be able to benefit from the prescription and use of Ritalin; 22.2% believed Ritalin should be prescribed for children older than six years as these children would benefit from neurotherapy for ADHD; others did not provide a response.

Caregivers indicated that the following reasons: Ritalin should be prescribed during these age ranges after having obtained an understanding of the child's problem (37.5%), Ritalin should be prescribed during the preschool years as it is during this period that basic concepts required for future learning endeavours are acquired and developed (25%) and Ritalin is required to help the child concentrate in school.

4.5.4.8 WHEN SHOULD RITALIN BE TAKEN?

Ninety percent of teachers indicated that Ritalin should be taken on weekdays, 30% reported it should be taken on weekends and 30% believed it should be administered during holidays as well. Reasons for the aforementioned responses were as follows: 66.7% believe that for children with attentional problems Ritalin should be administered on schooldays when there was an increased need for concentration, 30% indicated that children with ADHD needed Ritalin on a daily basis while those with ADD required it only on school days.

For caregivers, the following responses were received: 84.2% indicated that Ritalin should be taken on weekdays, 15.8% on weekends and 5.3% during holidays. Reasons for their responses included: Ritalin should be taken on

weekdays as the ADHD was not severe (5.6%), it should be administered on schooldays when concentration is required (77.8%), 5.6% of respondents indicated that more research is required into the use of Ritalin as side-effects could occur if the medication is stopped, 5.6% reported that Ritalin should be taken daily to maintain stability in the child with ADHD and 5.6% indicated that Ritalin should not be taken at all.

4.5.4.9 “TIME OFF” RITALIN

- **Should the child/learner have “time off Ritalin?”**

As regards question D11 which sought opinions as to whether children/learners should have “time off” Ritalin, 60% of the teacher respondents indicated that learners should have “time off” Ritalin, while 30% indicated that they should not. Caregivers’ responses were as follows: 94.1% indicated that they should have “time off” Ritalin, while 5.9% did not respond.

With regard to establishing whether children should be given “time off” Ritalin, the following responses were obtained from teachers: 10% indicated that children needed a break from Ritalin to allow them to be themselves and for their systems to have a break, 10% believed that a break was needed to prevent the risk of addiction or dependency, 30% reported that Ritalin could be stopped over weekends and school holidays when the demand for concentration was as high, 10% were uncertain, 20% believed that a break was necessary for monitoring purposes, 10% believed that children with ADHD should not have “time off” as they needed Ritalin everyday and children with ADD could have “time off” as they required it only on schooldays and 10% indicated that a break was needed to maintain a sense of stability in children.

Caregivers indicated the following: children’s systems needed a break and they needed some time to be themselves (23.5%), “time off” Ritalin is required to prevent addiction to or dependence on Ritalin (23.5%), for children with ADHD Ritalin is needed all the time whereas for those with ADD it is required on schooldays (5.9%).

4.5.4.10 WHEN SHOULD CHILDREN HAVE TIME OFF RITALIN?

An equal number (60% each) of teacher respondents indicated that children should have "time off" Ritalin on weekdays and weekends and 20% indicated that children should not be given Ritalin during holidays.

Caregivers indicated the following: an equal number (78.9%) felt that children should have "time off" Ritalin on weekdays and weekends, with 10.5% suggesting that these children have "time off" during holidays.

4.5.4.11 PERIOD CHILDREN SHOULD BE OFF RITALIN

With regard to the time period children should be off Ritalin, the following responses were received from teachers: 57.1% reported that children should not take Ritalin when not engaged in studying or during weekends and holidays, 14.3% indicated that there should be a break in Ritalin usage every 1-3 months and 28.6% thought that the child should be taken off Ritalin considering the advice of the remedial therapist.

Caregivers indicated the following: once the problem has been "solved" Ritalin could be stopped until required again (5.9%), it should be given for as long a period as can be managed (11.8%), it should be stopped when children are not studying and during weekends and holidays (58.8%), 5.9% were not sure, 5.9% each indicated that Ritalin should be stopped every two to three months and permanently and a further 5.9% suggested that Ritalin should be discontinued upon remedial advice.

4.5.4.12 INCREASE IN PRESCRIPTION OF RITALIN

- **Do you think Ritalin is being prescribed more often now than before?**

According to responses received for question D14, pertaining to whether the prescription of Ritalin has increased, 100% of the respondents (teachers) indicated consensus.

Caregivers indicated the following: 94.4% believe that there has been an increase in the prescription of Ritalin, with 5.6% indicating that there has been no increase.

With reference to reasons proffered for the perceived increase in the prescription of Ritalin, the following responses were received: 20% of teachers believe that the prescription of Ritalin served as an easy method for parents and teachers to control children, 10% indicated it was being prescribed as a “quick-fix” to enable parents and teachers to deal with behaviour problems, 10% attributed the perceived increase in prescription to a supposed increase learning disabilities, 70% indicated that increased prescription of Ritalin can be ascribed to an increased awareness of ADD and ADHD and the treatment thereof while 10% reported an increase in prescription as a result of more research having been undertaken into ADHD and Ritalin.

Caregivers indicated that Ritalin is being prescribed more often presently because of the following reasons: Ritalin has a positive effect on the problem (ADHD) (5.3%), medication therapy (Ritalin) provides an easy means for parents and teachers to control children with ADHD (10.5%), it provides a “quick-fix” for parents and teachers to deal with behaviour problems (21.1%), there appears to be an increase in the number of children with learning disabilities (5.3%), teachers are unable to cope with large classes (42.1%), people are more aware of ADD and ADHD and the treatment thereof (31.6%), and poor diet (additives, preservatives and allergens) appears to have contributed to an increase in ADHD and an accompanying rise in Ritalin prescription (5.3%).

4.5.4.13 DIAGNOSIS OF ADHD

4.5.4.13.1 Underdiagnosis

- **Do you think that ADHD is underdiagnosed?**

In response to the aforementioned question, teachers provided the following responses: 62.5% believe that ADHD is underdiagnosed, while 37.5% feel it is not.

The majority of caregivers (70%) were of the opinion that it is underdiagnosed, with 30% indicating that it is not.

4.5.4.13.2 Overdiagnosis

- Do you think that ADHD is overdiagnosed?

Teachers indicated the following: 22.2% believed that ADHD is overdiagnosed, while 77.8% believed it is not overdiagnosed; 75% of caregivers maintained that ADHD is overdiagnosed, with 25% believing it is not.

4.5.4.14 IMPACT OF RITALIN ON THE PSYCHOLOGICAL STATUS OF THE CHILD

- In your opinion, does the prescription and use of Ritalin impact on the psychological status of the child/learner?

Table 4.33.1 Impact of Ritalin on the psychological status of the child: Teachers

MULT RESP FREQ: D17EX

	Value	Frequency	Percents	% of sample
Improves thinking & concentration	1	1	10	10.0
Child is coping with learning & schoolwork	4	3	30	30.0
Improved self confidence	7	3	30	30.0
Drugs child to make him/her more manageable	10	2	20	20.0
		1	10	10.0
	TOTAL	10	100	

Table 4.33.2 Impact of Ritalin on the psychological status of the child: Caregivers

FREQUENCIES: D17EX

	Value	Frequency	Percents	Valid Percents
Child feels inferior to other children/embarrassment	2	1	5.3	6.7
Medication should be used for right reasons - not behaviour problems & hyperactivity	3	1	5.3	6.7
Child is coping with learning & schoolwork	4	4	21.1	26.7
Anxiety about taking medication	5	2	10.5	13.3
Moody and aggressive	6	1	5.3	6.7
Improved self confidence	7	4	21.1	26.7
Child reliant on Ritalin	8	1	5.3	6.7
Quieter/Calmer	9	1	5.3	6.7
		4	21.1	MISSING
	TOTAL	19	100	100.0

In question D17, respondents were asked to indicate whether they thought that Ritalin impacts on the psychological status of the child. The following responses

were offered by teachers: 77.8% indicated an affirmative response, whereas 22.2% indicated that Ritalin did not impact on the psychological status of the child.

Caregivers indicated the following: 72.2% reported that Ritalin does impact on the psychological status of the child, with 27.8% indicating that it does not.

With reference to the above tables, reasons for teachers' responses included the following positive effects: 10% of the sample indicated that Ritalin affects cognitive processes by improving thinking and concentration, 30% indicated that it enables children to cope with learning and schoolwork, 30% reported that improved self confidence is experienced and 20% believed that the drug makes the child more manageable in terms of behaviour. Caregivers reported the following: positive effects were noted with regard to learning and schoolwork (26.7%), self-confidence (26.7%) and becoming calm (6.7%); negative psychological effects were reflected by the following perceptions: the child taking Ritalin feels inferior to and embarrassed in comparison to other "normal" children (6.7%), medication should be used for the right reasons and not to curb behaviour problems and hyperactivity (6.7%), children taking Ritalin experience anxiety about taking medication (a drug) (13.3%), they become moody and aggressive while on medication (6.7%), and may become reliant on Ritalin (6.7%) and 21% did not provide a response.

4.5.4.15 CONCERNS REGARDING THE USE OF RITALIN

Table 4.34.1 Concerns regarding the use of Ritalin: Teachers

FREQUENCIES: D18EX

	Value	Frequency	Percent	Valid Percent
Not enough research	2	1	10	14.3
Side-effects	3	2	20	28.6
Incorrect dosage & use	5	2	20	28.6
Must be regulated	7	2	20	28.6
		3	30	MISSING
	TOTAL	10	100	100.0

Table 4.34.2 Concerns regarding the use of Ritalin: Caregivers

FREQUENCIES: D18EX

	Value	Frequency	Percent	Valid Percent
Not enough research	2	2	10.5	16.7
Side-effects	3	5	26.3	41.7
Length of time for which drug must be taken - what happens in adulthood?	4	2	10.5	16.7
Incorrect dosage & use	5	1	5.3	8.3
Children are monitored regularly	6	1	5.3	8.3
Must be regulated	7	1	5.3	8.3
		7	36.8	MISSING
TOTAL		19	100	100.0

Teachers indicating concerns about the use of Ritalin comprised 70% of the sample. Thirty percent indicated that they had no concerns.

Teachers indicated some of the following concerns: 14.3% of the sample indicated that not enough research had been undertaken regarding the use of Ritalin by children, an equal percentage (28% each) reported side-effects and incorrect dosage and use of Ritalin as being of concern and 28.6% reflected that the regulation and monitoring of Ritalin posed a concern.

With regard to caregivers, 73.7% expressed concern about the use of Ritalin and 26% stated that they had no concerns.

Teachers expressed the following concerns: insufficient research (14.3%), side-effects (28.6%), incorrect dosage and use (28.6%) and issues pertaining to regulation of Ritalin (28.6%).

The following concerns were conveyed by caregivers: inadequate research (16.7%), possibility of side-effects (41.7%), uncertainty about the duration of the prescription and use of Ritalin (16.7%), incorrect dosage and usage (8.3%), appropriate monitoring (8.3%) and regulation of Ritalin (8.3%).

4.5.4.16 PERCEIVED RISK OF ABUSE OR ADDICTION TO RITALIN

- Do you think there may be a risk of abuse or addiction to Ritalin?

Table 4.35.1 Perceived risk of abuse or addiction to Ritalin: Teachers

FREQUENCIES: D19EX

	Value	Frequency	Percent	Valid Percent
Ritalin is not addictive/not as highly scheduled as it is made out to be	1	2	20	28.6
Ritalin must be administered & monitored by an adult	6	1	10	14.3
Ritalin is addictive/Concerned that Ritalin may be addictive	8	1	10	14.3
If no proper control/incorrect prescription	9	3	30	42.9
		3	30	MISSING
TOTAL		10	100	100.0

Table 4.35.2 Perceived risk of abuse or addiction to Ritalin: Caregivers

FREQUENCIES: D19EX

	Value	Frequency	Percent	Valid Percent
If child is just naughty & parents not prepared to discipline	2	2	10.5	11.8
Child with a chemical imbalance can become over-stimulated by Ritalin which would make problem worse	3	1	5.3	5.9
Causes side-effects	4	1	5.3	5.9
Teachers abusing it to control large classes instead of being patient & helping children to concentrate	5	2	10.5	11.8
Ritalin must be administered & monitored by an adult	6	2	10.5	11.8
Helps child with learning & schoolwork	7	1	5.3	5.9
Ritalin is addictive/Concerned that Ritalin may be addictive	8	6	31.6	35.3
If no proper control/incorrect prescription	9	1	5.3	5.9
Don't know	10	1	5.3	5.9
		2	10.5	MISSING
TOTAL		19	100	100.0

With reference to question D19, respondents had to indicate whether they perceived a risk of abuse or addiction to Ritalin and to substantiate their responses. Affirmative responses were provided by 44.4% of the teacher respondents, with 55.6% indicating that they did not think there might be associated risks with the use of Ritalin.

Caregivers provided the following information: 77.8% believe Ritalin is addictive, with 22.2% indicating that it is not addictive.

Explanations for the aforementioned have been reflected in the abovementioned table. Teacher respondents indicated that Ritalin is not as addictive as it is made out to be (28.6%), 14.3% reported that Ritalin must be administered and monitored by an adult to deter addiction, 14.3% indicated that Ritalin is addictive or were concerned that Ritalin may be addictive and 42.9% indicated the potential for abuse in the absence of proper control and if Ritalin is prescribed incorrectly.

Caregivers reported the following: 11.8% indicated that there the potential for abuse exists if the child is perceived as being naughty and parents are not prepared to effect disciplinary measures (Ritalin may be used as a convenient means to subdue these children), children with a chemical imbalance can become over-stimulated by Ritalin which would make the problem worse - they may use it to obtain a "high" (5.9%), poor monitoring or lack of monitoring can precipitate side-effects (5.9%), teachers could abuse the use of Ritalin by influencing assessment, diagnostic and prescription decisions and having learners take Ritalin so as to control large classes (11.8%), Ritalin must be administered and monitored by an adult to prevent the potential for abuse and dependency (11.8%), Ritalin is or may be addictive (35.3%), abuse or addiction could occur in the absence of proper control and correct prescription (5.9%) and 5.9% indicated that they did not know about whether there may be a risk of abuse or addiction. A minority (5.9%) responded that Ritalin helps with enhancing learning and schoolwork that it is not addictive.

4.5.4.17 PERCEIVED PHYSICAL SIDE-EFFECTS ASSOCIATED WITH RITALIN USAGE

Table 4.36.1 Perceived physical side-effects associated with Ritalin usage: Teachers

MULT RESP FREQ: D20EX

	Value	Frequency	Percents	% of sample
Tearful/Depressed	2	3	5	30.0
Loss of appetite	3	7	11.7	70.0
Loss of weight/stunt in growth	4	1	1.7	10.0
Repetitive mouth /finger movements	5	3	5	30.0
Lethargy/Does not like sport	8	1	1.7	10.0
Fever	10	1	1.7	10.0
Dermatitis	11	1	1.7	10.0
Nausea	12	3	5	30.0
Headache	13	3	5	30.0
TOTAL		23	38.5	

Table 4.36.2 Perceived physical side-effects associated with Ritalin usage: Caregivers

MULT RESP FREQ: D20

	Value	Frequency	Percents	% of sample
Yes	1	12	70.6	63.2
No	2	5	29.4	26.3
TOTAL		17	100	89.5

Table 4.36.3 Perceived physical side-effects associated with Ritalin usage: explanations

MULT RESP FREQ: D20EX

	Value	Frequency	Percents	% of sample
None	1	2	3.5	10.5
Tearful/Depressed	2	1	1.8	5.3
Loss of appetite	3	5	8.8	26.3
Loss of weight/stunted growth	4	5	8.8	26.3
Repetitive mouth /finger movements	5	1	1.8	5.3
Stomach cramps	6	1	1.8	5.3
Moody	7	2	3.5	10.5
Lethargy/Does not like sport	8	2	3.5	10.5
Increase in weight	9	3	5.5	15.8
TOTAL		22	39	

* Please note that more than one response may have been provided.

With respect to perceived adverse effects of Ritalin, the majority of teachers (90%) indicated that physical side effects do occur, with 10% indicating that there were no side effects.

Caregivers indicated the following: 63.2% indicated that there are side effects, with 26.3% indicating that there were none.

Responses reflected in the above tables were elaborations provided for their responses. Thirty percent of the teachers reported that children taking Ritalin became tearful and depressed, 70% reported loss of appetite, 10% indicated weight loss and stunting of growth, 30% reported repetitive mouth and finger movements, 10% each reflected lethargy, reluctance to participate in sport, fever and dermatitis as side-effects. Nausea and headaches were reported by 30% for each.

Caregivers' reported the following: no side effects (10.5%), tearfulness and depression (5.3%), loss of appetite (26.3%), weight loss and stunted growth (26.3%), repetitive mouth and finger movements (5.3%), stomach cramps (5.3%), moodiness (10.5%), lethargy and reluctance to participate in sport (10.5%) and increase in weight (15.8%).

4.5.4.18 IS MEDICATION NECESSARY?

In question D21 (refer to appendix 4) teacher respondents were requested to indicate whether they thought it is necessary to medicate children with ADHD and to provide reasons for their answers. There was overwhelming consensus (100%) for the prescription of medication.

Caregivers reported the following: 82.4% reported that medication is necessary, with 17.6% indicating that it was not. Reasons for their responses included the following: 10% of the sample believe that medication is necessary to improve the quality of life for children with ADHD, 30% indicated that it helps the child to cope, 10% indicated that it would be preferable to have smaller classes which would allow for the provision of individual attention, 10% reported that medication enables better control of the child with ADHD, 10% indicated that it became necessary to medicate children with ADHD, as a last resort, after having tried other methods, 20% stated that medication is necessary for the child to become

socially acceptable, 30% indicated that medication improved a child's learning ability and 20% reported that medication is necessary to help teachers cope.

4.5.4.19 ALTERNATIVES TO MEDICATION

The majority of teacher respondents (55.6%) believe that there are alternatives to medication, with 44.4% indicating that there are no alternatives.

Caregivers reported the following: 60% indicated that there were alternatives to medication and 40% indicated that there were not.

Reasons offered by teachers for these responses were as follows: 30% indicated good nutrition and dietary adjustments as alternatives, 20% were in favour of herbal remedies, and 10% for each indicated environmental control, individual learning programmes and behaviour modification as options. Those who believe that there are no alternatives indicated that herbal remedies do not work in the treatment of ADHD.

Caregivers who indicated that there are alternatives provided the following responses: Sportron preparations (5.3%), good nutrition and dietary adjustments (21.1%), herbal remedies (15.8%) and tender loving care (5.3%). Those who felt there were no alternatives stated that specialists in the field of ADHD have indicated that there are no alternatives.

4.5.4.20 MONITORING OF RITALIN

All teacher respondents (100%) indicated that Ritalin usage must be monitored carefully.

Caregivers indicated the following: 94.4% felt that medication (Ritalin) usage must be monitored while 5.6% were not in favour.

Teacher respondents provided the following reasons for the monitoring of Ritalin: 60% viewed monitoring being important as a means of ensuring that the correct dosage is being administered and to make the appropriate adjustments where necessary, 20% reported that monitoring serves to detect and monitor side-

effects, and 20% indicated that it allows for checking the improvement, development or progress of the learner with ADHD.

Caregivers indicated the following: 5.3% believe that monitoring is essential to determine whether the prescription of Ritalin is justified, 31.6% viewed monitoring as being essential to determining the correct dosage or effecting adjustments in dosage, 31.6% reported that monitoring enables the detection of side-effects and 36.8% indicated that through monitoring, positive performance and development effects can be ascertained.

4.5.4.21 WHO SHOULD MONITOR CHILDREN WITH ADHD?

4.37.1 Who should monitor children with ADHD?: Teachers

MULT RESP FREQ: D24

	Value	Frequency	Percents	% of sample
Teachers	1	10	20	100.0
Parents	2	7	14	70.0
GP	3	3	6	30.0
Paediatrician	4	9	18	90.0
Therapist	5	1	2	10.0
School Nurse	6	1	2	10.0
	TOTAL	31	62	

Table 4.37.2 Who should monitor children with ADHD?: Caregivers

MULT RESP FREQ: D24

	Value	Frequency	Percents	% of sample
Teachers	1	16	21.1	84.2
Parents	2	13	17.1	68.4
GP	3	2	2.6	10.5
Paediatrician	4	11	14.5	57.9
	TOTAL	42	55.3	

- Please note that more than one response may have been provided.

The following responses were obtained from teachers with regard to who should monitor children with ADHD: there was consensus (100%) that teachers should monitor children with ADHD, 70% indicated that parents engage in the monitoring process, 30% believe that the general practitioner should effect the monitoring, 90% viewed monitoring as the responsibility of the paediatrician and 10% each indicated the remedial therapist or school nurse should do this.

Parents indicated that the following people engage in the monitoring of children with ADHD: teachers (84.25), parents (68.4%), general practitioners (10.5%) and paediatricians (57.9%).

4.5.4.22 HOW SHOULD CHILDREN ON RITALIN BE MONITORED OR FOLLOWED UP?

The following teacher responses were received with regard to how children on Ritalin should be monitored and followed up: 20% indicated that behaviours should be observed, 30% indicated that learning and schoolwork should be monitored and teacher evaluations should be effected, 50% reported that the general well-being and physical development should be monitored, 50% indicated the need to ensure regular reports to doctors from teachers and parents and 20% suggested that there be frequent check-ups by the paediatrician.

Caregivers indicated the following: behavioural observation (15.8%), monitoring of learning, quality of schoolwork and teacher evaluations (31.6%), monitoring of general well-being and physical development (21.1%), monitoring of maturity levels for age (5.3%), ensuring that medical professionals are provided with regular reports from teachers and parents (21.1%) and frequent examinations by paediatricians (21.1%).

4.5.4.23 FEELINGS ASSOCIATED WITH ADHD DIAGNOSIS

- **How did you feel when ADHD was diagnosed for your child/learner?**

In response to this question the following responses were received from teachers: 14.3% were relieved to find out what was “wrong” with the learners, 57.1 % accepted the diagnosis as it confirmed what they had suspected, 14.3% accepted the diagnosis with caution and 14.3% became sympathetic towards these learners.

Caregivers expressed their feelings as follows: shock, devastation and rejection of the diagnosis as they could not accept it (16.7%), self-blame (11.1%), relief to find out what was “wrong” (27.8%), acceptance of the diagnosis as it was

perceived to be a part of the solution to the problem (11.1%), concern (11.1%), 16.7% experienced dismay and distress (very upset) and 5.6% felt helpless.

4.5.4.24 FEELINGS ASSOCIATED WITH PRESCRIPTION OF RITALIN

4.38.1 Feelings associated with prescription of Ritalin: Teachers

FREQUENCIES: D27

	Value	Frequency	Percent	Valid Percent
Heard negative talk about Ritalin but doctor reassured me	1	1	10	14.3
Open-minded but cautious	2	1	10	14.3
Not sure of what to expect	5	1	10	14.3
Happy to have solution and hopeful	6	4	40	57.1
		3	30	MISSING
TOTAL		10	100	100.0

4.38.2 Feelings associated with prescription of Ritalin: Caregivers

FREQUENCIES: D27

	Value	Frequency	Percents	Valid Percents
Heard negative talk about Ritalin but doctor reassured me	1	2	5.3	10.5
Open-minded but cautious	2	1	2.6	5.3
Did not like it	3	5	13.2	26.3
Concerned about side-effects	4	9	23.7	47.4
Not sure of what to expect	5	1	2.6	5.3
Happy to have solution and hopeful	6	1	2.6	5.3
TOTAL		19	50	100.0

With regard to indicating their feelings when informed that learners should be treated with Ritalin, the following responses were obtained: 14.3% indicated that they had negative talk about Ritalin but had been reassured by the doctor, 14.3% were open-minded but cautious, 14.3% were not sure of what to expect and 57.1% were happy to have a solution and felt hopeful.

Caregivers expressed the following: 10.5% had heard negative talk about Ritalin but received reassurance from the medical practitioner about its effectiveness, 5.3% were open-minded but cautious (5.3%), 26.3% did not approve of treatment with Ritalin (did not like it), 47.4% were concerned about side effects, 5.3% were not sure what to expect and 5.3% were happy, relieved and hopeful.

4.5.4.25 CHANGE IN FEELINGS SINCE PRESCRIPTION AND USE OF RITALIN

4.39.1 Change in feelings since prescription and use of Ritalin: Teachers

FREQUENCIES: D28EX

	Value	Frequency	Percent	Valid Percent
Positive change in child - quality of life improved	3	1	10	50.0
Understand problem better	4	1	10	50.0
		8	80	MISSING
TOTAL		10	100	100.0

4.39.2 Change in feelings since prescription and use of Ritalin: Caregivers

FREQUENCIES: D28EX

	Value	Frequency	Percents	Valid Percents
Positive improvement in schoolwork after Ritalin	1	3	7.9	25.0
Child is calmer	2	3	7.9	25.0
Positive change in child - quality of life improved	3	4	10.5	33.3
Understand problem better	4	1	2.6	8.3
Concerned about impact of drug on personality	5	1	2.6	8.3
TOTAL		12	31.5	100.0

Question D28 invited responses to whether teachers experienced any change of feelings since the prescription of Ritalin. They were requested to indicate how their feelings had changed. The majority of respondents (71.4%) indicated that there had been no change in their feelings, and 28.6% reported changes in feelings.

Caregivers indicated the following: 61.1% reported that they had experienced changes in feelings about the prescription of Ritalin, with 38.9% indicating that they had not.

Fifty percent of teacher respondents indicated experiencing favourable feelings as they observed positive changes in the learner and improved quality of life.

The remaining 50% indicated a better understanding of the problem.

Caregiver were as follows: 25% reported developing positive feelings towards Ritalin after witnessing positive effects on schoolwork, 25% felt re-assured that

Ritalin was effective after noticing that it had a calming effect on hyperactive children, 33.3% observed a positive change in terms of the child's development as well as improvement in quality of life, 8.3% expressed having a better understanding of ADHD after observing the impact of Ritalin on the child's academic, psychological and social functioning with a minor 8.3% conveying a sense of reservation about Ritalin as they were concerned about the impact of the drug on the personality of the child.

4.5.4.26 IS RITALIN SHORT-TERM OR LONG-TERM MEDICATION?

4.40.1 Is Ritalin short-term or long-term medication?: Teachers

MULT RESP FREQ: D29A

	Value	Frequency	Percents	% of sample
Short term	1	1	10	10.0
Long term	2	7	70	70.0
	.	2	20	20.0
	TOTAL	10	100	

4.40.2 Is Ritalin short-term or long-term medication?: Caregivers

FREQUENCIES: D29

	Value	Frequency	Percents	Valid Percents
Short term	1	6	31.6	37.5
Long term	2	10	52.6	62.5
		3	15.8	MISSING
	TOTAL	19	100	100.0

The majority of teacher respondents (70%) indicated that they perceive Ritalin to be long-term medication, with 10% stating that it is short-term medication.

Caregivers provided the following responses: 37.5% perceived Ritalin to be short term medication, with 62.5% indicating that it was long term medication.

4.5.4.27 IS ADHD A LIFELONG CONDITION REQUIRING RITALIN AS A FORM OF TREATMENT?

4.41.1 Is ADHD a lifelong condition requiring Ritalin as a form of treatment?: Teachers

MULT RESP FREQ: D30EX

	Value	Frequency	Percents	% of sample
Children grow out of behaviour as they become more self-aware	2	2	10	20.0
Positive change in adults who were on Ritalin as a child	3	1	5	10.0
Children learn to cope as they grow older	4	4	20	40.0
Personal Experience	7	1	5	10.0
Needs to be monitored	8	1	5	10.0
Try alternatives	9	1	5	10.0
TOTAL		10	50	

4.41.2 Is ADHD a lifelong condition requiring Ritalin as a form of treatment?: Caregivers

FREQUENCIES: D30EX

	Value	Frequency	Percents	Valid Percents
People are off Ritalin when they are better	1	1	2.6	8.3
Children outgrow behaviour as they become more self-aware	2	3	7.9	25.0
Positive change in adults who were on Ritalin as a child	3	1	2.6	8.3
Children learn to cope as they grow older	4	5	13.2	41.7
Physical disorder	5	1	2.6	8.3
Concentration is always required	6	1	2.6	8.3
TOTAL		12	31.5	100.0

The following responses were received: of the teacher cohort 33.3% indicated that ADHD is not a lifelong condition requiring Ritalin as a form of treatment, while 66.7% indicated that it is; 46.7% of caregivers believe ADHD is not a lifelong condition

Caregivers responses were as follows: 46.7% believe that ADHD is a lifelong condition requiring intervention with Ritalin, while the majority (53.3%) were of the opinion that ADHD is not a lifelong condition requiring medical treatment.

Reasons mentioned by teachers were as follows: 20% reported that children outgrow ADHD behaviours as their self-awareness increases, 10% indicated that there was a positive change in adults who had taken Ritalin during childhood,

40% maintained that children learn to cope as they grow older, 10% cited personal experience as a reason for using Ritalin as long-term treatment, 10% indicated concern about the monitoring of Ritalin as long-term medication and 10% believe that alternatives should be tried instead of using Ritalin as long-term medication.

Caregivers maintaining that ADHD is not a lifelong condition requiring medical intervention indicated the following: ADHD sufferers experience an improvement in the severity of their condition and come off Ritalin when they “become better” (8.3%), children outgrow ADHD behaviours as their self-awareness increases (25%), ADHD is a physical disorder that abates with physical maturity and children learn to cope with the disorder as they grow older (41.7%). Those in support of ADHD being a lifelong condition requiring long term medical intervention reported that adults with ADHD experienced positive changes in terms of their functioning when they received treatment with Ritalin during childhood (8.3%) and that concentration is always required thereby warranting the long term use of Ritalin.

4.5.4.28 FEELINGS REGARDING THE PRESCRIPTION OF A DRUG (RITALIN) FOR CHILDREN

- Considering that Ritalin is a drug, how do you feel about the prescription of Ritalin for children?

Table 4.42.1 Feelings regarding the prescription of a drug (Ritalin) for children: Teachers

MULT RESP FREQ: D31

	Value	Frequency	Percents	% of sample
Adult supervision & administration is important	1	2	10	20.0
Helps child - improves quality of life	2	4	20	40.0
Only advice of paediatrician	6	2	10	20.0
Not as highly scheduled as made out to be, hence not a danger	8	2	10	20.0
Not the only answer	9	1	5	10.0
	TOTAL	11	55	

Table 4.42.2 Feelings regarding the prescription of a drug (Ritalin) for children: Caregivers

FREQUENCIES: D31

	Value	Frequency	Percents	Valid Percents
Adult supervision & administration is important	1	5	13.2	26.3
Helps child - improves quality of life	2	6	15.8	31.6
Must be for child's benefit only & not for parents & teachers to cope	3	3	7.9	15.8
Not happy/Dislike drugs	4	4	10.5	21.1
Must be prescribed for short-term to prevent addiction	5	1	2.6	5.3
	TOTAL	19	50	100.0

* Please note that more than one response may have been provided.

Twenty percent of the teacher respondents felt that adult supervision and administration of the drug were important concerns, 40% viewed the prescription of Ritalin favourably indicating that it helped the child by improving his or her quality of life, 20% would consider the prescription of the drug only on the advice of a paediatrician, 20% believe that Ritalin is not a dangerous drug as they indicated that it does not have a highly restricted (schedule) status and 10% felt that Ritalin was not the only answer in terms of treatment.

Caregivers expressed the following: adult supervision and administration of Ritalin were important (26.3%), 31.6% reported that they were comfortable with the prescription of Ritalin as it helps the child to function "normally" thereby improving the quality of life for the child, 15.8% felt that Ritalin must be prescribed for the right reasons and for the child's benefit rather than for the convenience of parents and teachers, 15.8% were unhappy and disliked the use of drugs (21.1%), and 5.3% expressed discontent with the use of Ritalin and concern that it could become addictive if not confined to short term prescription.

4.5.4.29 ATTITUDES TOWARDS THE PRESCRIPTION OF RITALIN FOR CHILDREN

Table 4.43.1 Attitudes towards the prescription of Ritalin for children: Teachers

FREQUENCIES: D32

	Value	Frequency	Percent	Valid Percent
Support its use since it improves quality of life for children	1	4	40	40.0
Although it helps children cope, it must be controlled	2	3	30	30.0
Support it only if absolutely necessary/prescribed correctly	5	2	20	20.0
Cautious	7	1	10	10.0
	TOTAL	10	100	100.0

Table 4.43.2 Attitudes towards the prescription of Ritalin for children: Caregivers

FREQUENCIES: D32

	Value	Frequency	Percent	Valid Percent
Support its use since it improves quality of life for children	1	7	36.8	41.2
Although it helps children cope, it must be controlled	2	5	26.3	29.4
Causes side-effects	3	1	5.3	5.9
Not the right solution/Medication not the answer	4	2	10.5	11.8
Support it only if absolutely necessary/prescribed correctly	5	1	5.3	5.9
No other recognised alternative	6	1	5.3	5.9
		2	10.5	MISSING
	TOTAL	19	100	100.0

Respondents were requested to indicate their attitudes towards the prescription of Ritalin for children. Forty percent of the respondents indicated their support for the prescription of Ritalin as they believe it improves the quality of life for children with ADHD; 30% indicated that although it helps children to cope, it must be controlled, 20% stated they would support the prescription of Ritalin only if absolutely necessary and if prescribed correctly, 10% were very cautious.

4.5.4.30 RITALIN IS PRESCRIBED FOR THE BENEFIT OF TEACHERS AND / OR CAREGIVERS

Table 4.44.1 Ritalin is prescribed for the benefit of teachers and/or caregivers: Teachers

MULT RESP FREQ: D33EX

	Value	Frequency	Percents	% of sample
Parents & teachers lives are much easier when there is positive change & the child is happier	1	3	15	30.0
Must be prescribed for child's benefit only to focus, follow instructions, work independently & improve self-confidence	2	7	35	70.0
Teachers cannot cope with big classes & behaviour problems. Impatient with children	3	1	5	10.0
	TOTAL	11	55	

Table 4.44.2 Ritalin is prescribed for the benefit of teachers and/or caregivers: Caregivers

FREQUENCIES: D33

	Value	Frequency	Percent	Valid Percent
Yes	1	10	52.6	52.6
No	2	9	47.4	47.4
	TOTAL	19	100	100.0

Table 4.44.3 Ritalin is prescribed for the benefit of teachers and/or caregivers: explanations

FREQUENCIES: D33EX

	Value	Frequency	Percent	Valid Percent
Parents & teachers lives are much easier when there is positive change & the child is happier	1	1	5.3	5.9
Must be prescribed for child's benefit only to focus, follow instructions, work independently & improve self-confidence	2	7	36.8	41.2
Teachers cannot cope with big classes & behaviour problems. Impatient with children	3	9	47.4	52.9
	TOTAL	2	10.5	MISSING
		19	100	100.0

Thirty percent of respondents indicated that Ritalin is prescribed for the benefit of teachers, while 70% disagreed strongly. Reasons for their responses were as

follows: 30% of respondents reported that parents' and teachers' lives are much easier when there is positive change (on Ritalin) and the child is happier, 70% indicated that Ritalin must be prescribed exclusively for the benefit of the child to assist the child to focus, follow instructions, work independently and improve self confidence and 10% stated that Ritalin is used for the benefit of teachers who are impatient and unable to cope with large classes and behaviour problems.

4.5.4.31 USE / LACK OF USE OF RITALIN CAN BE EMPLOYED AS AN EXCUSE FOR CERTAIN UNACCEPTABLE / DIFFERENT BEHAVIOURS

Table 4.45.1 Use/lack of use of Ritalin can be employed as an excuse for certain unacceptable/different behaviours: Teachers

MULT RESP FREQ D34

	Value	Frequency	Percent	% of sample
Many people are not ware of all the different types & causes of behaviour problems. Behaviour should not be associated with Ritalin	2	1	5	10.0
More effort and patience is required from teachers	3	1	5	10.0
Ritalin can be an excuse over careful child management/child discipline	4	4	20	40.0
Parents excuse the fact that child is ADHD	5	2	10	20.0
	TOTAL	8	40	

Table 4.45.2 Use/lack of use of Ritalin can be employed as an excuse for certain unacceptable/different behaviors: Caregivers

FREQUENCIES: D34

	Value	Frequency	Percent	Valid Percent
Many people are not ware of all the different types & causes of behaviour problems. Behaviour should not be associated with Ritalin	2	7	36.8	63.6
More effort and patience is required from teachers	3	2	10.5	18.2
Ritalin can be an excuse over careful child management/child discipline	4	2	10.5	18.2
	TOTAL	8	42.1	MISSING
		19	100	100.0

Responses received were as follows: 10% of the sample indicated that there is a lack of awareness of the different types and causes of behavioural problems and that behaviour should not be associated with Ritalin, 10% believe that more effort and patience is required from teachers to address unacceptable or different behaviours, 40% indicated that Ritalin can be used an excuse for lack of careful child management and child discipline, and 20% reported that parents excuse the “fact” that the child has ADHD.

4.5.4.32 EFFECTIVENESS OF RITALIN

Table 4.46.1 Effectiveness of Ritalin: Teachers

FREQUENCIES: D35

	Value	Frequency	Percent	Valid Percent
Yes	1	8	80	88.9
Other (Some)	3	1	10	11.1
		1	10	MISSING
	TOTAL	10	100	100.0

Table 4.46.2 Effectiveness of Ritalin: Caregivers

FREQUENCIES: D35

	Value	Frequency	Percent	Valid Percent
Yes	1	17	89.5	94.4
No	2	1	5.3	5.6
		1	5.3	MISSING
	TOTAL	19	100	100.0

Table 4.46.3 Effectiveness of Ritalin: explanations

MULT RESP FREQ: D35EX

	Value	Frequency	Percents	% of sample
Child loves going to school now/More socially acceptable	1	1	0.6	5.3
Does homework on his own/More independent	2	2	1.2	10.5
Does his best always	3	1	0.6	5.3
Schoolwork/learning improved	4	9	5.3	47.4
Concentration improved	5	11	6.4	57.9
Better attitude at home	6	2	1.2	10.5
Greater self confidence	7	1	0.6	5.3
Behaviour improved	8	5	2.9	26.3
No marked improvement	9	1	0.6	5.3
	TOTAL	33	19.4	

In response to whether Ritalin is perceived to be effective in the management of children with ADHD, the following responses were obtained: 88.9% of respondents indicated that they perceived Ritalin to be effective, with 11.1% reporting that it was not. Reasons for their responses were as follows: 20% reported that when on Ritalin the child loves going to school and behaviour becomes more socially acceptable, 10% indicated that the child on Ritalin always gives of his/her best, 40% reported an improvement in schoolwork and learning with the assistance of Ritalin, 10% reported an improvement in behaviour when on Ritalin, 10% indicated that there may be some improvement when taking Ritalin and 10% indicated that homeopathic remedies also work well for children with ADHD.

4.5.4.33 INDICATORS OF EFFECT OF RITALIN

4.5.4.33.1 BEHAVIORAL CHANGES

Table 4.47.1 Indicators of effect of Ritalin: Behavioural changes: Teachers

MULT RESP FREQ: D36A

	Value	Frequency	Percents	% of sample
Socially acceptable behaviour/nicer to have around	1	5	12.5	50.0
More confident	2	1	2.5	10.0
Calmer/Controlled/Less hyperactive	3	5	12.5	50.0
Concentrates longer	4	3	7.5	30.0
Moody & aggressive	8	1	2.5	10.0
Impulsivity improved	9	1	2.5	10.0
No change	13	1	2.5	10.0
TOTAL		17	42.5	

Table 4.47.2 Indicators of effect of Ritalin: Behavioural changes: Caregivers

MULT RESP FREQ: D36A

	Value	Frequency	Percents	Valid Percents
Socially acceptable behaviour/nicer to have around	1	4	1.8	5.3
Calmer/Controlled/Less hyperactive	3	5	2.2	5.3
Concentrates longer	4	2	0.9	5.3
Tearful after a long break from Ritalin	5	1	0.4	21.1
Loss of appetite	6	1	0.4	10.5
Mouth movements	7	1	0.4	5.3
Moody & aggressive	8	4	1.8	5.3
Impulsivity improved	9	2	0.9	5.3
Tired/Lethargic	10	1	0.4	10.5
Not frustrated	11	1	0.4	131.6
More responsible/independent	12	1	0.4	0.0
No change	13	2	0.9	0.0
	TOTAL	25	10.9	100.0

In terms of the impact of Ritalin on behaviour, the following responses were obtained: 50% indicated that when on Ritalin, children with ADHD displayed socially acceptable behaviour and were 'nice' to have around, 10% reported an increase in confidence, 50% reported that children with ADHD became calmer, controlled and less hyperactive, 10% indicated that these children became moody and aggressive, 10% reported an improvement in impulsivity, and 10% reported no change in behaviour.

4.5.4.33.2 SCHOLASTIC PERFORMANCE**Table 4.48.1 Indicators of effect of Ritalin: Scholastic performance: Teachers**

MULT RESP FREQ: D36B

	Value	Frequency	Percents	% of sample
Better social interaction	2	2	10	20.0
Improved schoolwork	3	3	15	30.0
Improved levels of concentration	4	3	15	30.0
No change	5	1	5	10.0
	TOTAL	9	45	

Table 4.48.2 Indicators of effect of Ritalin: Scholastic performance: Caregivers

MULT RESP FREQ: D36B

	Value	Frequency	Percents	% of sample
Positive attitude	1	2	2.6	10.5
Improved schoolwork	3	15	19.7	78.9
Improved levels of concentration	4	2	2.6	10.5
No change	5	1	1.3	5.3
	TOTAL	20	26.2	

In terms of the effect of Ritalin on scholastic performance, the following responses were received: 20% indicated improved social interaction, 30% reported improved schoolwork, 30% stated that there were improved concentration levels, and 10% reported no change.

Other observations were that children on Ritalin became socially acceptable, well-liked by other children and more mature and responsible. Concerns were raised about the adverse effects such as dermatitis and pimples on the face and body, loss of appetite and headaches.

4.5.5 SECTION E: CULTURAL PERCEPTIONS OF ADHD, MEDICATION AND CHILDREN WITH ADHD

In this section, the focus was on determining cultural understanding and perspectives relating to ADHD, medical management and children with ADHD. Teachers and caregivers were required to indicate whether ADHD is considered as a 'problem' or condition that should be medicated, if Ritalin is an acceptable form of treatment for children with ADHD, perceptions of children with ADHD and to indicate forms of intervention that are effected for children with ADHD.

4.5.5.1 IS ADHD A 'PROBLEM' OR CONDITION THAT REQUIRES MEDICATION?

All teacher (100%) indicated that ADHD requires drug therapy with the following reasons being provided: 33.3% indicated that medication provides an easy solution to the problem (ADHD), 33.3% reported that the child is viewed as

different, naughty, demanding, exhausting, socially unacceptable and the behaviours characterising ADHD are detrimental to family life, 33.3% indicated that ADHD is perceived as a neuropsychological problem requiring medical intervention.

The majority of caregivers (80%) were in favour of drug therapy, with 20% indicating disagreement. The following reasons were provided for their responses: 12.5% viewed single parenting (poor parenting skills and inadequate emotional and financial support) as being the problem, 25% indicated that ADHD can be treated with drugs, 12.5% reported that a limited number of ADHD sufferers respond favourably to drug treatment, a further 12.5% indicated for each of the following that ADHD is a physical disorder that can be controlled through the use of drug therapy, medication enhances learning and can be used for the benefit of teachers.

4.5.5.2 IS RITALIN AN ACCEPTABLE FORM OF TREATMENT FOR CHILDREN WITH ADHD?

Table 4.49.1 Is Ritalin an acceptable form of treatment for children with ADHD?: Teachers

FREQUENCIES: E2

	Value	Frequency	Percent	Valid Percent
Yes	1	7	70	87.5
No	2	1	10	12.5
		2	20	MISSING
	TOTAL	10	100	100.0

Table 4.49.2 Is Ritalin an acceptable form of treatment for children with ADHD?: Caregivers

FREQUENCIES: E2

	Value	Frequency	Percent	Valid Percent
Yes	1	9	47.4	75.0
No	2	2	10.5	16.7
Not sure	3	1	5.3	8.3
		7	36.8	MISSING
	TOTAL	19	100	100.0

Table 4.49.3 Is Ritalin an acceptable form of treatment for children with ADHD?: explanations

FREQUENCIES: E2EXP

	Value	Frequency	Percent	Valid Percent
Acceptable when you deal with support groups	1	1	5.3	8.3
Helps child to cope	2	7	36.8	58.3
Consider use of alternative medication /dietary adjustments	4	3	15.8	25.0
Commonly used	6	1	5.3	8.3
		7	36.8	MISSING
	TOTAL	19	100	100.0

The majority (87.5%) indicated that Ritalin is an acceptable form of treatment, with 12.5% indicating that it was not. Explanations for the responses were as follows: 25% indicated that Ritalin helped the child with ADHD to cope and 75% reported that Ritalin helps to reduce the symptoms of ADHD.

4.5.5.3 PERCEPTIONS OF CHILDREN WITH ADHD

Table 4.50.1 Perceptions of children with ADHD: Teachers

MULT RESP FREQ: E3

	Value	Frequency	Percents	% of sample
Problem children/naughty children	1	7	35	70.0
Learning disabled children	6	1	5	10.0
Mentally retarded/children with a neurological disorder	7	1	5	10.0
	TOTAL	9	45	

Table 4.50.2 Perceptions of children with ADHD: Caregivers

MULT RESP FREQ: E3

	Value	Frequency	Percents	% of sample
Problem children/naughty children	1	9	6.8	47.4
Children who cannot concentrate	2	1	0.8	5.3
Hyperactive children	3	1	0.8	5.3
Uncontrollable children	4	3	2.3	15.8
Children with bad parenting	5	1	0.8	5.3
Learning disabled children	6	2	1.5	10.5
Mentally retarded/children with a neurological disorder	7	1	0.8	5.3
	TOTAL	18	100	

The following responses were received: 70% indicated that in terms of cultural perceptions children with ADHD were viewed as being problem children or naughty children, 10% reported that they were perceived as learning disabled children and 10% stated that they were considered to be mentally retarded or having a neurological disorder.

4.5.5.4 FORMS OF INTERVENTION EFFECTED FOR CHILDREN WITH ADHD

Table 4.51.1 Forms of intervention effected for children with ADHD: Teachers

MULT RESP FREQ: E4

	Value	Frequency	Percents	% of sample
Diet adjustment	4	1	3.3	10.0
Medication	6	5	16.7	50.0
Management of disorder - environment & programme modification	7	2	6.7	20.0
Psychotherapy	8	1	3.3	10.0
	TOTAL	9	30	90.0

Table 4.51.2 Forms of intervention effected for children with ADHD: Caregivers

MULT RESP FREQ: E4

	Value	Frequency	Percents	% of sample
OT	1	1	0.8	5.3
Speech therapy	2	1	0.8	5.3
Remedial teaching	3	2	1.5	10.5
Diet adjustment	4	1	0.8	5.3
None	5	1	0.8	5.3
Medication	6	1	0.8	5.3
Management of disorder - environment & programme modification	7	1	0.8	5.3
	TOTAL	8	6.3	

The following responses were received: 10% indicated that dietary adjustments were carried out, the majority (50%) indicated medication (Ritalin) as an intervention, 20% reported management of the disorder through modification of the environment and teaching and learning programmes, and 10% viewed psychotherapy as a viable form of intervention.

4.5.5.5 ADDITIONAL INFORMATION PROVIDED BY RESPONDENTS

Table 4.52.1 Additional information provided by respondents: Teachers

FREQUENCIES: E5

	Value	Frequency	Percent	Valid Percent
Child cannot cope/control behaviour without Ritalin	8	1	10	50.0
More people need to be made aware of the condition	10	1	10	50.0
		8	80	MISSING
	TOTAL	10	100	100.0

Table 4.52.2 Additional information provided by respondents: Caregivers

FREQUENCIES: E5

	Value	Frequency	Percent	Valid Percent
School has been a wonderful support system	1	1	5.3	11.1
Outside world is cruel to children - fail to understand children & easily label them as naughty	2	1	5.3	11.1
More research on side-effects is required	3	2	10.5	22.2
Parents, teachers & doctors need to work closely together to help children	4	2	10.5	22.2
Ritalin must be prescribed for short periods only	5	1	5.3	11.1
People need to have more respect, patience & time for children	6	1	5.3	11.1
Management & Medication are equally important in treating ADHD	7	1	5.3	11.1
		10	52.6	MISSING
	TOTAL	19	100	100.0

To conclude, respondents were requested to add any information that they considered to be within the scope of the study. The following responses were received: 50% indicated that the child with ADHD is unable to cope or control behaviour without Ritalin and the remaining 50% stated that there needs to be greater awareness about ADHD.

CHAPTER FIVE

DISCUSSION

This chapter focuses on a discussion of the results set out in the preceding chapter. The discussion occurs in the context of the research that prefaces this study. The purpose of the study was to survey and ascertain the perception and understanding of teachers, parents and caregivers regarding the nature and management of ADHD, with specific reference to medical intervention in the form of drug therapy, specifically Ritalin. This provided the basis for the analysis of the data. The critical questions, also stated in the introductory chapter and underpinning this research endeavour are as follows:

- How do teachers view the prescription of Ritalin as a means of managing ADHD behaviours?
- How do caregivers view the prescription of Ritalin as a means of managing ADHD behaviours?

The initial focus of the discussion is on the biographical data, followed by deliberations emanating from the responses received in the study.

5.1 BIOGRAPHICAL DATA

The teacher cohort comprised of 100% White respondents, hence limiting the representativity of the sample and the generalisability of the results.

In terms of professional status, 30% of teachers occupy positions as heads of department with 70% being level one teachers. The biographical data elicited suggests that an equal percentage of teachers (50% each) fall into the age ranges 41-50 years and 51 years and over, with all respondents having professional teaching qualifications. Teaching qualifications ranged from college diplomas to post-graduate teaching degrees, with the majority having university qualifications. Teaching experience ranged from a minimum of five years experience to more than twenty years of experience teaching learners with

ADHD from pre-primary to junior secondary phases. In the light of the aforementioned data it can be surmised that the teachers have a plausible understanding and an impressive repertoire of experience about ADHD and its management, as well as experience with drug therapy.

The majority of caregivers are biological parents (73.7%), with foster parents, guardians and siblings constituting the rest of the cohort. In terms of racial composition, the majority of caregivers are White (78.9%), with Indians, Blacks and Coloureds comprising the minority. Most of the caregivers are in the 31-40 year age range, with 31.6% being located within the 41-50 year age range and 10.5% falling in the age bracket of fifty-one years and over. The majority (52.6%) have matriculated, with 26.3% having diplomas, 10.5% having bachelors degrees and an equal percentage (5.3% each) having secondary level qualifications. Occupations were wide ranging, with a minority of the parents having professional qualifications. With regard to income, 52.6% of caregivers were in the middle-income bracket with 42.1% in the higher income bracket. There appears to be a positive correlation between educational levels and professional qualifications. A possible explanation for the majority of teachers and caregivers constituting the majority is that the chosen site has traditionally catered for white learners with special needs.

5.2 KNOWLEDGE AND UNDERSTANDING OF ADHD

This study attempts to gain insight into the orientation of teachers and caregivers towards the prescription and use of Ritalin by exploring issues relating to the aetiology of ADHD, diagnosis, treatment and management, involvement of teachers and caregivers and their understanding of medical management. Responses elicited by this study direct attention not only to differences in perception across these areas, but to frustration emphasized by the respondents in attempting solitary management of a disorder that requires team perspective and the collaboration of professionals and caregivers.

From the information obtained teachers appear to have a functional knowledge of the identifying features of ADHD and the aetiology of ADHD. The majority of teachers indicated that they had arrived at their understanding of ADHD through independent initiatives such as engaging in research, reading and practical experience. Although all the teacher respondents had professional teaching qualifications, a very limited number indicated having some exposure to ADHD and learners with special needs in their teacher training programmes.

Teachers and general practitioners are commonly consulted by parents of learners suspected of having ADHD. A severe shortcoming identified is that of a lack of current and recent information about ADHD and medical management among teachers and medical professionals. A possible reason for this is inadequate or inferior quality undergraduate preparation in the area of ADHD. Several studies have documented that educators do not receive adequate education and skills training regarding ADHD in their undergraduate studies. Investigations into teachers' knowledge and attitudes about ADHD have demonstrated that 99% of Canadian and 89% of American teachers received minimal or absolutely no training concerning ADHD in their undergraduate programmes (Jerome, Gordon & Hustler, 1994). Unfortunately, the biases and misgivings of these professionals can be passed on to parents. Ignorance and sensationalism have also been blamed for the controversy that surrounds ADHD and the prescription of Ritalin. The tendency of the South African education authorities to "*gloss over*" the problem of learning and behavioural disabilities for political and economic reasons has also influenced perceptions and attitudes toward ADHD and other learning problems (Klopper, 2000). Recognition, acknowledgement and acceptance of these problems makes it obligatory for the authorities to address these problems, something they are not keen to do.

A strong desire to have access to more information about ADHD and medication and to be involved in the management processes and decisions was articulated by teachers and caregivers. A very small percentage of teachers (10%) had

received information from medical practitioners, with teachers feeling marginalized. Caregivers demonstrated a satisfactory knowledge of ADHD in terms of distinguishing elements and minimal knowledge about the aetiology of ADHD. The majority (42.1%) reported that they had acquired an understanding of ADHD through information provided by the medical practitioner. With regard to whether adequate information had been provided about ADHD, the majority of parents (caregiver) (57.9%) reported that adequate information was lacking, with 80% of teachers indicating that they had sufficient information (refer to graph 1, appendix 6).

Gaps in the knowledge of teachers and caregivers were evident in terms of the aetiology of ADHD, with teachers and caregivers providing a diffuse response that ADHD could be attributed to a neurological dysfunction. Some of the responses provided were: ADHD emanates from a lack of certain enzymes, and characteristics of ADHD were listed. From the aforementioned, it is apparent that ADHD is viewed in terms of its identifying criteria such as the behavioral and cognitive manifestations rather than etiology. Misconceptions about the aetiology of ADHD and medical management were detected. Some factors associated with the aetiology of ADHD were:

- poor diet
- nutritional deficiencies
- environmental and social stressors
- emotional deprivation
- inconsistent discipline
- a lack of or poor parenting techniques
- single parenting
- cognitive immaturity
- physical immaturity
- domestic stressors
- food additives
- food preservatives

- colourants
- attention seeking behaviors and acting out behaviours
- emotional difficulties
- increased intake of sugar
- lack of routine and structure in the school and home contexts
- poor teaching skills and lack of appropriate teaching skills
- unaccommodating school and home environments
- ignorance of child's needs.

Multi-variate factors, such as the verbalization of negative, critical remarks (Conrad & Hammen, 1989), insensitive attitudes, disengagement, disapproval, and hostility were found to influence the perception of symptomatic behaviour in children with undesirable and ineffective parenting practices such as intrusiveness, unresponsiveness and inept discipline also colouring negative perceptions toward children with ADHD (Gelfand & Teti, 1990).

The dissenting voice of Breggin (1996) raises strong disapproval of the prescription and use of medication, arguing that environmental, social, and educational factors such as unstimulating learning environments, large class sizes, lack of attention to the individual needs of learners, overburdened and overstressed teachers, as well as parental neglect are instrumental in causing ADHD. However, an abundance of research to the contrary indicates that the aforementioned factors can be influential in precipitating adverse behaviours but they are not capable of causing ADHD (Green & Chee, 1997; Barkley, 1998).

According to Barkley (1998), the teacher's knowledge of and attitude towards ADHD is pivotal to effecting management decisions and the implementation of management programmes or initiatives. If teachers have a deficient understanding of the etiology of ADHD, its attributes, development and outcomes as well as misperceptions about appropriate management modalities, classroom efforts to manage the disorder would be futile. Other studies (Vitaro, Tremblay &

Gagnon, 1995) have shown that attitudes of teachers and their knowledge of the disorder and management approaches are instrumental in shaping teachers' perceptions of learners with ADHD.

Demystification of ADHD is paramount to the treatment of individuals with ADD or ADHD (Worrall, cited in O'Connor, 1999). Furthermore, the term "disorder" may be a misnomer as ADHD children have high levels of energy, enthusiasm and creativity, which may be overlooked as "disorder" has a particularly negative connotation (O'Connor, 1999). Additionally, the terminology applied to the descriptors of ADHD has profound implications for the development of perceptions and attitudes pertinent to possible modes of intervention.

In terms of whether ADHD is considered to be "treatable", the majority of teachers (90%) and caregivers (86.7%) were of the opinion that it is. Teachers provided strong support for the use of medication (Ritalin) (90%), with 57.9% of caregivers choosing Ritalin as a treatment modality. There was a significant difference in the opinions expressed about the provision of information regarding the management of children with ADHD with 63.2% of caregivers indicating that they had not received adequate information about the management of ADHD and the majority of teachers indicating that they had received sufficient information. This has been a cause for concern amongst caregivers who feel that a lack of appropriate information prejudices treatment decisions and options. Despite this indication, a significant proportion of caregivers (89.5%) demonstrated positive attitudes and supported the use of Ritalin as a suitable means of managing children with ADHD. Motivations for these responses were made up of the following responses: Ritalin improves concentration levels which has positive effects in terms of scholastic performance and enhanced academic productivity as well as improved self-confidence and is easy to administer.

Respondents harbouring negative perceptions towards the use of Ritalin as a treatment modality indicated a reluctance to use Ritalin because of its perceived

adverse effects and the paucity of research pertaining to the positive effects on scholastic performance and social behaviour.

Research and reading initiatives were reflected by teachers and caregivers as the most popular modes of acquiring and enhancing their personal and professional knowledge bases about ADHD and Ritalin, with few respondents constituting a minority indicating that they had obtained the relevant information from medical professionals.

5.3 DIAGNOSIS OF ADHD AND MEDICAL MANAGEMENT

Issues relating to diagnosis are very controversial and focus on the perceived misdiagnosis, under- and overdiagnosis of ADHD and the accompanying implications for management. A greater percentage of caregivers (75%) than teachers (22.2) believe that ADHD is overdiagnosed with a marginal difference surfacing in the perceptions of teachers and caregivers in the underdiagnosis of ADHD. Both cohorts believe that ADHD is significantly underdiagnosed. The perceptions of teachers and caregivers can be accounted for by the following research evidence. The diagnosis of ADHD can be extremely problematic due to its behavioural variability (Koziol, 1999). Also, as a syndrome of disturbed behaviour manifesting itself in childhood (Gillberg, 1995), ADHD calls for professional attention, on entry of learners to school, when they experience difficulty conforming to the demands of the structured learning environment. However, despite manifestation of ADHD symptoms, research suggests wide-ranging consensus that the syndrome cannot be identified in infancy or early childhood (Campbell, 1985; Barkley, 1990; Loeber & Lahey, cited in Lahey & Carlson, 1991) thereby complicating diagnosis and management.

While there has been increased identification and diagnosis of ADHD as a consequence of increased mental health, educational and community knowledge about symptomatology and difficulties associated with ADHD, a salient number of

ADHD sufferers remain underdiagnosed or misdiagnosed. The coincidence of ADHD behaviours with other conditions such as developmental learning disorders can lead to overdiagnosis, underdiagnosis or misdiagnosis of ADHD, inappropriate or even erroneous therapeutic interventions and corresponding dismal results. The issue of whether children with learning difficulties can be 'lumped' together in one diagnostic category has irked many researchers in the medical and allied fields. Different perceptions of ADHD sufferers have called for different management options. Conditions that mimic ADD, such as dyslexia and other learning disabilities, development disorders, vision and auditory problems, epilepsy, food allergies, hypothyroidism, hyperthyroidism, hypoglycaemia, lead poisoning, caffeinism, depression, anxiety and obsessive compulsive disorder have confounded ADHD diagnosis (Block, 1997). According to Weiss and Hechtman (1993), approximately 50% of children diagnosed with hyperactivity outgrow their symptoms while the rest continue to be disabled to a varying extent by symptoms that persist into adulthood.

Armstrong (cited in Reichenberg-Ullman & Ullman, 1996) expresses caution about the current overdiagnosis of ADHD. He believes that high-spirited, extremely imaginative and precocious children with ceaseless questions and insatiable intellectual appetites place such considerable demands on their parents that parents have difficulty coping. Some children may be extremely active, but are able to perform competently in school. Many of these children have been diagnosed with ADD, although he feels that they would be better suited to the category of unusual, remarkable or even gifted children. Some of these young people have been considered to be victims of rigid, excessively strict teachers whose highly structured classroom environments fail to pace their temperaments and learning styles. Alternatively, these youngsters may have overly rule-bound parents who do not proffer their children the freedom that they require to thrive and expand their creative talents (Reichenberg-Ullman & Ullman, 1996).

Fears of stigmatisation have also been raised by caregivers. Physicians may also not be aware of the ramifications and repercussions to the psychiatric diagnosis of ADHD. Many children "branded for life" with a diagnosis of ADHD may have been erroneously diagnosed as many physical problems in children demonstrate the same symptoms as ADHD (Block, 1997). The prescription of Ritalin for these children is viewed by anti-Ritalin proponents as an anathema. This perception undoubtedly impacts on treatment decisions.

Despite the plethora of clinically documented research on ADHD, researchers are still in disagreement about the aetiology of ADHD, as well as the existence of the condition. Cynicism and diffidence crept in with a sense of incredulity as ADD was alluded to as "*the diagnosis without a disease*" (Serfontein, 1994: 2). Yet another perspective raised questions about the clinical justification for ADHD. Bernstein (cited in O'Connor and Garson, 1999) claims that numerous children are "*mistakenly slapped with the diagnosis*" by "*stressed-out teachers*" who have difficulty coping with conventional playfulness and naughtiness. She ascribes blame to uncompromising ideas about developmental milestones and the manner in which children are expected to perform in the classroom for the "*overdiagnosis*" of ADD and ADHD.

Problems relating to appropriate diagnostic procedures and drug treatment have been expressed as plausible reasons for differing perceptions of the diagnosis of ADHD. Despite Methylphenidate being the most widely used stimulant for the treatment of ADHD (Kwasman, Tinsley & Lepper, 1995), objective diagnosis and treatment practices are often limited (Copeland, Wolraich, Lindgren, Milich & Woolson, 1987; Barbaresi, 1996), with a limited number of professionals in private practice providing controlled medication trials to evaluate the response of methylphenidate (Stancin et al, 1990). Although pre-school children with ADHD appear to manifest numerous characteristics found in older ADHD children, treatment in support of psychological interventions and involving non-pharmacological interventions seem to be as effective as the use of

psychostimulants in older children (Sonuga-Barke, 2000). Recommendations for intervention programmes for preschool children with ADHD include parent training in child management techniques, a structured preschool experience focused on the development of self-control, on-task and co-operative behaviour, as well as, if indicated, medication (Campbell, 1985; Alessandri & Schramm, 1991; Blackman, Van Westervelt, Stevenson & Welch, 1991; Roeyers, Keymeulen & Buysse, 1998). Clinical management in the form of treatment with Ritalin appears to be less effective in adolescents (Hill, 1998).

Blaming and anger are common as parents blame themselves, one another, the child, and sometimes the teacher and the learning context when symptoms have not been recognized and a diagnosis effected. As parents engage in futile attempts to 'discipline their errant children' by imposing more punishment, these children become increasingly defiant, alienated and frustrated, and parents become disbelieving and reluctant to accept their excuses. Having a parent with ADHD serves to exacerbate the problem. Children with ADHD have difficulty living up to parents' expectations, and may experience feelings of inadequacy when they are compared unfavourably with siblings and peers. Those diagnosed with ADHD may become family scapegoats for problems that may occur. Furthermore, most patients want a diagnosis of ADHD and are disappointed if they do not receive it (Harvard Mental Health Letter, 1995).

5.4 PRESCRIPTION AND USE OF RITALIN

Confusion and controversy between and within professions regarding the use of Ritalin reveals inconsistent prescription decisions and despite the availability of a recognized diagnostic criteria for ADHD some physicians are sceptical as to its effectiveness (Hughes, 1998).

The use of medication to treat ADHD and the prescription of Ritalin has been received with mixed feelings by teachers and caregivers, with Ritalin being

laudable for the observable positive effects in terms of behavioural and school performance and the greatest concerns being the potential for dependency and abuse of the drug (refer to graph 6, appendix 6), adverse effects that are associated with the use of Ritalin (refer to graph 7, appendix 6), dosage effects and monitoring, the uncertainty that characterizes the long-term use of stimulant medication and the perceived marginalisation of teachers and caregivers in the decision-making and management processes by medical professionals. Studies have documented that even when medication trials are attempted, teachers frequently have little involvement, parents may be reluctant to participate (Firestone, 1982), experience difficulty with adherence to protocol (DiTraglia, 1991), or terminate treatment without conferring with the consulting physician (Firestone, 1982) as a consequence of their perceived inadequacy and insignificance.

However, the pragmatics of medication management are very salient in the management of ADHD as they have a significant bearing on the prescription, monitoring, titration and achievement of effective doses of medication. The relationship between clinician and patient, as well as teachers and caregivers in the case of children with ADHD, is of absolute importance as it provides the basis for the establishment of trust, medical compliance, consistent and effective monitoring and the procurement of medication, or the lack of these. Furthermore, the practical and relational aspects of clinician, patient and family interactions can be enhanced through the provision of accurate information pertaining to the use of stimulant medication and education about ADHD and medication.

Parents of children with ADHD are prone to having low esteem and abject feelings (Green, cited in Green, Loeber & Lahey, 1991), as they become frustrated in their attempts to manage their children successfully. Additional social pressure obtained from viewing other parents managing their children successfully sets the stage for recurrent and persistent feelings of doubt, inadequacy and ineptitude regarding their parenting proficiency. The exacting

nature of ADHD places strenuous demands on teachers, caregivers, siblings and those with ADHD, more so when there is a lack of understanding and awareness of the condition in its various manifestations and contexts, and the role of medication management.

Mothers appear to liaise most often with teachers and other professionals. A recent study of mothers with ADHD children has revealed that these mothers experience negative feelings, which predispose them to depression. They also declared that very limited, if any, sources of support were available to them to cope with the inappropriate behaviours of their children and their personal feelings of inadequacy (Houghton, West & Douglas, 1998).

Parents of children with ADHD generally suffer great psychological trauma in their quest for plausible reasons for their children's conditions. Often, guilt and an indomitable sense of personal failure and inadequacy dominate their lives. Aspirant parents who have coveted ideals and lofty hopes for their children are sorely disappointed when their children appear to be repositories of bad impulses. The subsequent realization that something may be seriously amiss with their children can be devastating and initially this may be met with denial or obscure acceptance. Very often the psychological and physical strain of raising ADHD children is ignored, taken for granted or not even considered. And this is indeed worrying! Parents are the child's foremost teachers and this should never be underestimated. Their perspectives are equally if not more important than other professionals' views and they must be recognized and acknowledged as vital partners in the management and treatment of ADHD children.

Scholastically individuals with ADHD underachieve and this is exemplified in poor grades that are obtained. They tend to experience severe learning difficulties, which may be handicapping and/or disabling (Lerner et al, 1995; Kirk et al, 1997). Ritalin is prescribed to enhance attention and curb impulsivity and hyperactivity so as to promote on-task behaviour. It acts to ***“enhance and normalise the***

inattentive child's natural abilities" (Green & Chee, 1997). Controls of attention are frail and may be easily distressed by a diversity of influences. As such, attentional weaknesses can occur at any age, but may also "*become resolved or compensated for at any point in life*" (Levine, 1998).

Teachers and caregivers indicated an appreciation of the positive effects of Ritalin which were observed in terms of enhanced on task behaviour, improved behavioural and social performance, increased levels of self-awareness and self-confidence and a greater independence. Improvement in the primary characteristics of ADHD were also evidenced with enhanced attention and concentration levels, reduction in impulsivity and hyperactivity were promoting accompanying increases in academic productivity.

Teachers and caregivers who had negative perceptions of Ritalin attributed these to the perceived potential for developing a dependency on Ritalin with consistent and long-term use and the risk of abuse of Ritalin. Caregivers indicated significant concern about the risk of abuse of Ritalin considering it is a drug, in the same category as cocaine. The physical and psychological effects of the drug were worrying, with loss of appetite, nausea, headaches, growth retardation and hypersensitivity to the effects of the drug being paramount.

ADHD exerts a ripple effect and disrupts an individual's effective functioning in all areas of life, thus also severely compromising quality of life as well. The psychological impact of the disorder is indeed noteworthy. Negative experiences, demeaning consequences, punishment and reprimands are not foreign to ADHD sufferers. In the absence of stable and supportive family relationships and social networks, ADHD sufferers may be vulnerable to the adverse effects of personal and social stresses. Contextual factors such as inadequate Education Support Services, teachers' inability to cope with the demands of ADHD learners, and a poorly or misinformed public and ignorance, especially of the prescription of medication, also contribute to the exacerbation of the learner's problems.

Ignorance of the function and role of Ritalin as an integral constituent of the multi-modal management of ADHD has roused further dissension about its prescription, with media attention overemphasizing the adverse effects. As Ritalin is a stimulant, nervousness and insomnia are common adverse reactions but are usually controlled by reducing the dosage and omitting the drug in the afternoon or evening, or administering the drug earlier (Levine, 2000). For those children who require the afternoon dose, knowledge of the possible dose variations is vital so as to achieve success. Levine (2000) believes that weight loss in the initial few weeks of treatment is inconsequential as this settles eventually, and no cases of malnutrition have been documented. Dietary adjustments in the form of a substantial, nutritious breakfast prior to the administration of the tablet, and a delayed lunch can be effective in minimizing or controlling weight loss.

Research indicates that the fear of addiction to stimulants has been received with some scepticism. It is believed that the stigma and embarrassment associated with taking a drug to control personal behaviour may be humiliating to children, and especially adolescents. Adolescents resent feeling **“different, defective, or dependent”** (Harvard Mental Health Letter, 1995). Green and Chee (1997: 130) provide a compelling argument for the prescription and use of psychostimulants, the essence of which is captured aptly in the following excerpt:

“Children, adolescents and even adults with ADHD live their lives with a circling, muddled mind. When medication is effective they become more clear thinking and focused. Humans take addictive drugs to escape the world, not to become fully focused on reality... You don’t get addicted to reality.” Support for this perspective has been provided by Kewley (1998) with research evidence demonstrating that concerns associated with the prescription of Ritalin such as the suppression of growth, long-term tolerance and dependence have no basis.

Teachers and caregivers expressed concern about the negative impact of Ritalin on the personalities of ADHD sufferers, the “zombie” effect, the inappropriate

prescription of Ritalin and uncertainty as to when Ritalin should be prescribed, which have been influential in creating erroneous perceptions and confused and negative attitudes towards the prescription of Ritalin. Although there was significant consensus amongst teachers and caregivers that Ritalin is long-term medication (refer to graph 2, appendix 6) with ADHD being considered as a condition that warrants the use of medication (refer to graph 4, appendix 6) the majority of caregivers indicated that ADHD is not an enduring, chronic condition requiring medical intervention (refer to graph 3, appendix 6). Furthermore, the majority of teachers recognise Ritalin as being an acceptable form of treatment for children with ADHD, with the majority of parents being non-committal and expressing a sense of uncertainty (refer to graph 5, appendix 6). It has been found that a poor knowledge of prescription practices and the use psychostimulants, as well as a lack of monitoring of dosages by medical practitioners have been responsible for the biased and prejudicial perspectives associated with the prescription of Ritalin (Green & Chee, 1997).

Prescription and dose-related issues are very much a function of the difficulties presented by the child with ADHD. Hence it is imperative to distinguish between behaviour problems and the use of Ritalin to subdue this disruptive behaviour, and learning disabilities that are associated with lack of concentration and perceptual problems. The stimulant effect of Ritalin works to enhance the concentration of a learning disabled child with a concentration problem. Initially, when Ritalin is prescribed, the dosage is titrated to the optimal level and it should be taken daily including weekends (Levine, 2000). This enables caregivers and teachers to observe the effects of Ritalin, and to assist in establishing the correct dosage for the child. Thereafter the child with only a learning problem can have his/her dosage tapered off during weekends. If satisfactory progress has been made, medication can ultimately be discontinued on weekends and later also, the afternoon dose during the school week. If the child has solely a concentration problem and needs medication to study, the child may require medication just during weekends and prior to exam time. Too high a dose will cause this child to

become extremely serious and somber creating a “zombie” effect. In this instance a reduction in the dosage would be necessary.

A child with a behaviour problem who has his or her medication stopped over a weekend becomes disruptive to the extent that the entire family unit is disturbed and the child suffers as well. When medication is resumed, the caregivers and teachers will require the whole of the following week to get him or her settled again (Levine, 2000). When the medication is stopped the next weekend, the bedlam starts all over again. This situation can be extremely detrimental to the child as a result of the negative input he or she receives. Medication throughout the week continuously may be required for some hyperactive children, but a smaller dose may suffice during afternoons on school days and over weekends and holidays. The optimum dose for behaviour control is slightly higher than the one to enhance learning. When improvement through therapy and maturity occurs the hyperactive child can eventually manage without medication over weekends and the **“right to stop medication has been earned”** (Levine, 2000). It is imperative to adopt a logical and sensible approach to medication, which permits the optimal use of Ritalin.

Once dosage has been regulated to a point at which the child is well managed, medication must still be reviewed at regular intervals as there are numerous circumstances necessitating changes in dosage. With physical maturation over a period of months or years, a child may require a higher dose. A child who experiences intellectual maturation will need a lower dose. Added environmental stress may require the prescription of other medication together with the Ritalin to ensure effective functioning (Levine, 2000).

Cunningham (1978), (cited in Swanson et al, 1991) is of the opinion that *“the major effect of stimulants appears to be an improvement in classroom manageability rather than academic performance.”* Additional research has demonstrated the positive effects of stimulant medication in the diminution of

disruptive behaviour (Pelham cited in Howlin, 1988). However a contrasting view has been offered by controlled studies (Tannock et al, 1993; Douglas, Barr, O'Neill & Britton, 1998; Pelham et al, 1985; Rapport, Stoner, DuPaul, Birmingham & Tucker, 1985, cited in Swanson et al, 1991) exhorting the benefits of stimulant medication in improving the academic performance of children with ADHD and increasing on task behaviours (Pelham, cited in Howlin, 1988), thereby enhancing the academic output as some learners with ADHD (Evans & Pelham, 1991). Research results indicate that Ritalin is effective in improving the behaviours symptomatic of ADHD and in the amelioration of some related difficulties in cognitive and social interactions (Schachar, Tannock & Cunningham, 1996).

The perception that drug therapy is an unsuitable mode of management which provides an "easy way out" as it could possibly give rise to short-term improvements in behaviour but eventuate long-term harm, has been articulated by teachers and caregivers and some professionals (Swanson et al, 1991). However, offering South African perspectives, medical professionals such as Klopper (1999) and Moodley (1999) endorse the use of Ritalin for the management of ADHD, maintaining that many misconceptions, misperceptions and negative attitudes frame the prescription and use of Ritalin. Klopper qualifies his stance by extolling the positive effects of the drug, indicating that ***"Ritalin is not a quick-fix pill, but is used in the long term. Neither is it a mind-bending drug, but restores the levels of dopamine in the brain to normal."***

In terms of developmental significance, ADHD has been distinguished as a perceptible category of pre-school behaviour problem, which is linked to disorders that occur later, particularly when it coincides with other behaviour problems (Sonuga-Barke, 2000). Teachers and caregivers supported the clinical use of Ritalin for children, especially pre-schoolers although safety and efficacy for children in this age group have not been established. Reasons for this position included the need for heightened concentration and attention as

fundamental concepts characterising the formative years are taught and developed and these form the basis for future academic success, or lack of it. Although pre-school children with ADHD appear to manifest numerous characteristics found in older ADHD children, treatment in support of psychological interventions and involving non-pharmacological interventions seem to be as effective as the use of psychostimulants in older children (Sonuga-Barke, 2000). Recommendations for intervention programmes for preschool children with ADHD include parent training in child management techniques, a structured preschool experience focused on the development of self-control, on-task and co-operative behaviour, as well as, if indicated, medication (Campbell, 1985; Alessandri & Schramm, 1991; Blackman, Van Westervelt, Stevenson & Welch, 1991; Roeyers et al, 1998).

The transition from childhood into adolescence brings with it a decline in activity levels. ADHD adolescents typically are fidgety, exhibit restless drumming of fingers or tapping of feet. It is surmised that inattention decreases, but impulsivity is sustained and a poor prognosis is therefore offered. There is considerable doubt and uncertainty as to whether: these presenting symptoms reflect an extension of the fundamental symptoms into adulthood; what is evidenced is an adaptation of a primary condition or a result of having experienced a primary hyperactivity disorder; the symptoms are a continuation of a co-existing condition or the result of a co-occurring condition (Hill, 1998). This confounds drug therapy. Contextual demands and individual growth are important factors to consider here. Research suggests that ADHD adolescents are prone to engaging in anti-social behavior and drug abuse. On the subjective dimension, research evidence indicates that these adolescents display emotionality, lack of clarity of thought, intolerance of boredom, impatience, disorganisation, distractibility, procrastination, short tempers, underachievement and low and poor self-esteem (Barkley, 1995; Hill, 1998). Although Ritalin is used for children in the senior primary and junior secondary levels as well,

clinical management in the form of treatment with Ritalin appears to be less effective in adolescents (Hill, 1998).

The realisation that ADHD is a chronic condition that persists into adulthood has encouraged an awareness and appreciation of Ritalin as a viable means of managing children with ADHD. Additionally, the evolution of ADHD has augmented the understanding and recent acceptance of ADHD as an adult condition. It has also served to promote and enhance the understanding of the perplexing psychiatric problems associated with the disorder (Bedway & Tzelepis, 1998). Studies pertaining to personality patterns in adult ADHD sufferers have revealed that ADHD adults exhibit distinct clusters of personality. These adults have pessimistic, negative worldviews, steadfastly believing that they possess inadequate power over life events and that things will not work out for them, and they have a tendency to be rather self-centred (Bedway & Tzelepis, 1998).

Stimulants such as Ritalin have proved to be safe and highly effective, when used prudently, in the treatment of children with ADHD (Barkley, 1990; Hynd et al, 1993). It is estimated that 3 percent of the elementary school-going population in the United States take psychostimulant medication. Barkley (1995) reports that approximately 75 percent of children afflicted with ADHD exhibit improvement with psychostimulant medication. The 25 percent of children who do not respond favourably to psychostimulants are usually given other medications such as antidepressants (Tofranil, Elavil, Norpramin, and Prozac) and antihypertensive medications such as Clonidine. According to Lyon (1994), 80% of children with ADHD respond favourably to drug therapy. Positive behavioural effects have been noted, with overactivity, impulsivity and distractibility being reduced substantially. Wodrich (1994) emphasises the importance of providing medication only after a comprehensive assessment has been effected and is of the opinion that undue attention has been attributed to the side effects of medication. ADHD individuals with social impairments may

respond favourably to some medications to alleviate their chronic anxiety (Brown, 1998).

Despite positive short-term Ritalin effects on problematic behaviours being frequently reported, long-term benefits have been limited (Carlson & Bunner, 1993; Jacobvitz, Sroufe, Stewart & Leffert, 1990; Alto & Frankenberger, 1995), possibly due to the variability in cognitive and behavioural Ritalin response (Hale et al, 1998). Support for the positive effects of Ritalin has been demonstrated by an investigation in the East Sussex region, where school staff observed a “positive difference” in 81% of pupils taking medication, with Ritalin being the most commonly taken medication. Observational reports expressed behavioural and cognitive differences, with these learners becoming “*calmer, more settled, more sensible, more focused, less impulsive, less aggressive*” and having “*better concentration*” and “*improved control of behaviour*” (Ramsden, 1998).

Compliance features as an important component of successful treatment. Levine (2000) believes that Ritalin has been incorrectly labelled as “*addictive*”, and that a problem exists with getting people to take their medication regularly or as prescribed, rather than in getting people to stop taking medication. Hence, it is imperative for people to appreciate that taking medication is a daunting task for children as it is bothersome and sometimes embarrassing to the child. Results of one study indicate that 20% of hyperactive children who had agreed to take drugs for a period of a year stopped by the fourth month, and nearly 50% by the tenth month. Yet another study revealed that only 22% of children prescribed stimulants continued to take them for as long as two years (Harvard Mental Health Letter, 1995).

Although drug therapy is becoming an increasingly popular mode of treatment, predicting which children will benefit and the duration of the drug treatment is indeed difficult. Although there may be discernible differences in the behaviours

and performance of the child with ADHD while on medication, there is no cogent evidence to substantiate the improvement of scholastic performance or the effect of adult outcomes. The original symptoms reappear with vehemence when the administration of the drug is discontinued or halted (Harvard Mental Health Letter, 1995; Block, 1997). However, it is presumed that short-term success may follow through to the long-term.

Pharmacological intervention used in exclusivity is insufficient for the treatment of ADHD (DuPaul et al, 1991; Perry, Poland, Blakely, Baker & Vigilante, 1995) and a combined course of action including psychotherapy as an integral component is advocated (Taylor, cited in Orford, 1998). Caregivers expressing favourable attitudes towards and an appreciation of the prescription and use of Ritalin recognized the importance of psychological interventions and the value of support groups. Psychotherapy helps individuals with ADHD to recognize and deflect feelings that create impulsive and aggressive reactions. The benefits of group therapy are apparent in the mutual support that is offered. Support groups provide the forum for caregivers and children to meet others with ADHD, thus facilitating mutual learning, engendering support (Anastopoulos & Barkley, 1990) and enhancing strengths. The sharing of information and discussion of the features of ADHD also occurs effectively in this interactional context (Hallowell & Ratey, 1996); caregivers and interested persons are able to relate their experiences, engage in problem solving and develop practical management strategies for ADHD children. The enhanced understanding that occurs in this environment makes it possible for caregivers to support their children and to work in consonance with teachers and other professionals. Research data indicates that parents have benefited from engaging with other parents who have similar experiences, thus enabling them to intervene positively.

Some suggestions have been proposed to assist parents and siblings of children with ADHD, and the affected children themselves (Harvard Mental Health Letter, 1995). Effective home management involves learning to differentiate behaviour arising from a biological component from reactions to the primary symptoms or

responses to the reactions of others. Family members should familiarise themselves with signs denoting loss of self-control by the affected child. A well-structured routine, incorporating consistent and unambiguous ground rules that have been negotiated with siblings and the child or adolescent with ADHD, must be established. Discipline must be constantly applied. The family should be guided by a sense of responsibility, and unity. Support groups, family therapy or counselling, and child management training may be worthwhile (Harvard Mental Health Letter, 1995).

Notwithstanding the availability of alternatives to medication and the controversial status of psychostimulant medication, Ritalin is clearly the "**drug of choice**" for those who have experienced the positive effects of the drug, and as evidenced by the responses of teachers and caregivers in this study. Ritalin is seen as only impacting on the symptoms of ADD and ADHD. Once it has been determined that Ritalin is beneficial to a particular child, the medication is prescribed on a long-term basis for many years if necessary, irrespective of the age at which treatment with Ritalin was commenced (Levine, 2000).

The complexity of ADHD brings to the fore the need to manage it with professional help. If left untreated, ADHD could severely jeopardise an individual's chances to succeed in life. Despite the effectiveness of adjuvant procedures in the treatment of ADHD (Douglas, 1991; Taylor, 1995), treatment effects are enhanced when drug therapy is employed in combination with psychosocial interventions (Cousins & Weiss, 1993). This view is endorsed by professionals, parents and children who believe that psycho-social interventions have immediate relevance to managing the symptoms and behaviours representative of ADHD (Braswell & Bloomquist, 1991). The best possible decision must be made for the individual with ADHD, and if the prescription and use of Ritalin provides a suitable option, then prevailing pessimistic attitudes and perceptions will require a major overhaul.

5.4.1 Pharmacotherapy of Ritalin

Ignorance of the function and role of Ritalin as an integral constituent of the multi-modal management of ADHD has roused further dissension about its prescription, with media attention overemphasizing the adverse effects (Moodley, 1999). Concerns about the adverse reactions of Ritalin have been indicated by teachers and caregivers. As Ritalin is a stimulant, nervousness and insomnia are common adverse reactions but are usually controlled by reducing the dosage and omitting the drug in the afternoon or evening, or administering the drug earlier (Levine, 2000). For those children who require the afternoon dose, knowledge of the possible dose variations is vital so as to achieve success. Levine (2000) believes that weight loss in the initial few weeks of treatment is inconsequential as this settles eventually, and no cases of malnutrition have been documented. Dietary adjustments in the form of a substantial, nutritious breakfast prior to the administration of the tablet, and a delayed lunch can be effective in minimizing or controlling weight loss.

5.4.2 Efficacy of psychostimulants

Although positive short-term Ritalin effects on problematic behaviours are frequently reported, long-term benefits have been limited (Jacobvitz et al, 1990; Carlson & Bunner, 1993; Alto & Frankenberger, 1995), possibly due to the variability in cognitive and behavioural Ritalin response (Hale et al, 1998). Support for the positive effects of Ritalin has been demonstrated by an investigation in the East Sussex region, where school staff observed a "positive difference" in 81% of pupils taking medication, with Ritalin being the most commonly taken medication. Observational reports expressed behavioural and cognitive differences, with these learners becoming "**calmer, more settled, more sensible, more focused, less impulsive, less aggressive**" and having "**better concentration**" and "**improved control of behaviour**" (Ramsden, 1998).

Stimulants such as Ritalin have proved to be safe and highly effective, when used prudently, in the treatment of children with ADHD (Barkley, 1990; Hynd et al, 1993). It is estimated that 3 percent of the elementary school-going population in the United States take psychostimulant medication. Barkley (1995) reports that approximately 75 percent of children afflicted with ADHD exhibit improvement with psychostimulant medication. The 25 percent of children who do not respond favourably to psychostimulants are usually given other medications such as antidepressants (Tofranil, Elavil, Norpramin, and Prozac) and antihypertensive medications such as Clonidine. According to Lyon (1994), 80% of children with ADHD respond favourably to drug therapy. Positive behavioural effects have been noted, with overactivity, impulsivity and distractibility being reduced substantially. Wodrich (1994) emphasises the importance of providing medication only after a comprehensive assessment has been effected and is of the opinion that undue attention has been attributed to the side effects of medication. ADHD individuals with social impairments may respond favourably to some medications to alleviate their chronic anxiety (Brown, 1998c).

5.4.3 Long-term benefits of drug therapy

Although drug therapy is becoming an increasingly popular mode of treatment, predicting which children will benefit and the duration of the drug treatment is indeed difficult. Although there may be discernible differences in the behaviours and performance of the child with ADHD while on medication, there is no cogent evidence to substantiate the improvement of scholastic performance or the effect of adult outcomes. The original symptoms reappear with vehemence when the administration of the drug is discontinued or halted (Harvard Mental Health Letter, 1995; Block, 1997). However, it is presumed that short-term success may follow through to the long-term.

5.4.4 Regulation and dosage of medication

Once dosage has been regulated to a point at which the child is well managed, medication must still be reviewed at regular intervals as there are numerous circumstances necessitating changes in dosage. With physical maturation over a period of months or years, a child may require a higher dose. A child who experiences intellectual maturation will need a lower dose. Added environmental stress may require the prescription of other medication together with the Ritalin to ensure effective functioning (Levine, 2000).

Levine (2000) views medication as a transient crutch to assist the child until maturation takes over. He expresses caution about stopping medication abruptly and at specific times. Medication should not be stopped early in a new year, before the child has had the opportunity to settle down and adjust to the new teachers, or prior to an examination as there is a correct time to stop medication. Once medication has been stopped both teachers and parents need to make their observations over a re-determined period of time before a final decision is taken as to whether medication should be continued or not.

5.4.5 Dosage and the child with learning disabilities

It is important to distinguish between behaviour problems and the use of Ritalin to subdue this disruptive behaviour, and learning disabilities that are associated with lack of concentration and perceptual problems. The stimulant effect of Ritalin works to enhance the concentration of a learning disabled child with a concentration problem. Initially, when Ritalin is prescribed, the dosage is titrated to the optimal level and it should be taken daily including weekends (Levine, 2000). This enables caregivers and teachers to observe the effects of Ritalin, and to assist in establishing the correct dosage for the child. Thereafter the child with only a learning problem can have his/her dosage tapered off during weekends. If satisfactory progress has been made, medication can ultimately be

discontinued on weekends and later also, the afternoon dose during the school week. If the child has solely a concentration problem and needs medication to study, the child may require medication just during weekends and prior to exam time. Too high a dose will cause this child to become extremely serious and somber. A reduction in the dosage would be necessary.

5.4.6 Behaviour problems and Ritalin use

A child with a behaviour problem who has his or her medication stopped over a weekend becomes disruptive to the extent that the entire family unit is disturbed and the child suffers as well. When medication is resumed, the caregivers and teachers will require the whole of the following week to get him or her settled again (Levine, 2000). When the medication is stopped the next weekend, the bedlam starts all over again. This situation can be extremely detrimental to the child as a result of the negative input he or she receives. Medication throughout the week continuously may be required for some hyperactive children, but a smaller dose may suffice during afternoons on school days and over weekends and holidays. The optimum dose for behaviour control is slightly higher than the one to enhance learning. When improvement through therapy and maturity occurs the hyperactive child can eventually manage without medication over weekends and the ***“right to stop medication has been earned”*** (Levine, 2000). It is imperative to adopt a logical and sensible approach to medication, which permits the optimal use of Ritalin.

5.4.7 Compliance

Compliance features as an important component of successful treatment. Levine (2000) believes that Ritalin has been incorrectly labelled as *“addictive”*, and that a problem exists with getting people to take their medication regularly or as prescribed, rather than in getting people to stop taking medication. Hence, it is imperative for people to appreciate that taking medication is a daunting task for

children as it is bothersome and sometimes embarrassing to the child. Results of one study indicate that 20% of hyperactive children who had agreed to take drugs for a period of a year stopped by the fourth month, and nearly 50% by the tenth month. Yet another study revealed that only 22% of children prescribed stimulants continued to take them for as long as two years (Harvard Mental Health Letter, 1995).

5.5 ALTERNATIVES TO MEDICATION

5.5.1 Homeopathy

In the homeopathic approach to treatment the whole person is considered; symptoms of ADD are taken into account in combination with all the person's other symptoms. Management initiatives involve treating the specific pattern of symptoms presented by an individual. Homeopaths emphasize the need to understand and differentiate each child not merely from the viewpoint of psychological testing, but to comprehend earnestly their physical symptoms, experience, feelings, beliefs, and motivations (Reichenberg-Ullman & Ullman, 1996). They believe that each child should be offered an individualized medicine as well as learning programme fashioned to meet the child's individual needs. Bernstein (cited in O'Connor & Garson, 1999) believes that Ritalin's palliative effect is more damaging than helpful as being a psychotropic drug it ***"must affect the psyche of the child."***

5.5.2 Dietary interventions

Dietary interventions are used most often with hyperactive children. Although diet appears to be a significant element in the management of ADHD the lack of substantive conclusive empirical research evidence in support of food intolerance and dietary interventions, as well as the difficulty associated with identifying diet

responsive children, highlight the contentious nature of dietary management (Kaplan, 1989; Carter 1993, 1995; Boris, 1994).

The elimination diet forms part of the holistic approach that should be employed to address the problems experienced by ADHD children, and dietary changes should be considered in conjunction with behaviour therapy as the initial course of treatment for children with behaviour problems (Taljaard, 2000). Scientific studies, including double blind placebo studies have indicated a relationship between diet, behaviour and concentration. ADHD sufferers are often sensitive to salicylate, which could influence their concentration and mood. The elimination diet entails the elimination of foods containing artificial flavourants, preservatives, colourants and salicylate. Salicylate containing foods may be re-introduced once a favourable response has been established. Although this elimination diet has found favour amongst some parents and professionals, it is still not a well-established form of treatment for ADHD on its own. In some instances, it could be employed as one aspect of multi-modal treatment (Goldstein, 1998).

5.5.3 Stress

Research by Hannaford (cited in Edwards, 2000) implicates the role of stress in ADHD. The medulla oblongata, pons and cerebellum, which together constitute the most primal area of the brain assume responsibility in times of stress and regulate the body's fight or flight reflex. As a result, when stress is experienced, neurological processing is impaired as children with ADHD do not have adequate opportunity to form nerve nets in the frontal lobes as their functioning depends on the brain stem, and learning difficulties may consequently manifest. Hannaford extends on this theory suggesting that the individual with ADD engages in "non-integrated lopsided brain functioning, a tendency to operate reflexively and /or reactively from survival centers in the brainstem and the stress response".

5.6 CULTURAL PERCEPTIONS OF ADHD AND RITALIN

Similarities across cultures were evident in the shared beliefs and perspectives conveyed by the respondents. In terms of the cultural understanding of ADHD and the use of Ritalin, teachers and caregivers indicated that there is a tendency for children with ADHD to be viewed as naughty, socially deviant, problem children, learning disabled, mentally retarded, neurologically impaired, uncontrollable and products of poor parenting. These erroneous and distorted perceptions have been perpetuated by ignorance about the disorder and its management, as well as prevailing myths.

Research indicates that the presence of psychiatric conditions co-morbid with the ADHD aggravates social impairments, which may manifest as acute anxiety, extreme shyness or social phobia (Brown, 1998b). The association of ADHD and Pervasive Developmental Disorder produces profound and debilitating social impairments evident in the severe difficulties to interact reciprocally and to empathise (Brown, 1998b; Jordan, 2001). Contrary to popular belief, children with ADHD are not obstreperous and undisciplined. Severe Oppositional Defiant Disorder or Conduct Disorder, which can exist as co-morbid conditions, are responsible for deviant and antisocial behaviours (Green & Chee, 1997). As a result of the poor understanding of ADHD and its management in the various cultures, a sense of reticence and reluctance is clearly discernible with regard to the medication of ADHD.

5.7 TEACHERS AND CAREGIVERS AS MANAGEMENT AGENTS

According to Levy (1997) treatment decisions about medication therapy are regulated by the elaborate interactions of cultural norms, parental expectations, medical expertise and human resources.

For more than 25 years, paraprofessionals have served competently as treatment agents in mental health services (Osher & Goldberg, cited in Bailey, 1998) and educational environments (Walker, Hops & Greenwood, cited in Bailey, 1998). School-based paraprofessionals were employed in the early 1990's to manage children with ADHD in the general education classroom, in part to address resistance presented by teachers to the use of behaviour modification in the classroom. Witt (cited in Bailey, 1998) offers the following reasons for resistance of teachers to implement behavioural programmes: time and resource requirements, theoretical orientation, and intrusiveness in the classroom. The aforementioned have persisted into this era. According to Kotkin (cited in Bailey, 1998) teachers can be very effective agents in implementing and sustaining behavioural management programmes if classroom resources match the needs of the learner.

It is very important for caregivers and teachers and medical and paramedical professionals to have a good relationship, as the splintering of services is to the detriment of the child with ADHD. Open and regular communication enables the facilitation and early identification of possible learning problems and appropriate management. A large number of children with ADHD need remedial teaching, occupational, speech and physiotherapy, if they are to fulfill their academic potential.

5.7.1 Teachers as management agents

Teachers are usually nonplussed when tried, tested and proven teaching and learning strategies fail to have the desired effect on ADHD learners. Growing and unmanageable class sizes, the accommodation of learners with special needs in the mainstream classes, and under resourced and inadequately skilled teachers serve to exacerbate the ADHD learner's problems. Research shows that teachers of ADHD learners are vulnerable to feelings of intense frustration and inclined towards a decline in their professional self-esteem (Burcham, Carison &

Milich, 1993; Mould, 1993). Often perceived as disruptive, irresponsible children who “lose” personal paraphernalia frequently, ADHD children are most likely to be singled out as being behaviourally deviant and academically challenged. Providing novel, stimulating and interesting activities to the ADHD learners poses a constant challenge to teachers, who also have to cater for the needs of other learners, each of whom comes with unique needs. Following from this, it is evident that the impact of ADHD on the sufferer is ineffable, the repercussions of which are potent enough to subvert the traditional teaching and learning strategies in and outside the classroom. Mediating between the demands of formal learning, peers, social as well as personal expectations becomes an overwhelming physical and emotional burden to the teacher and the learners and classroom management can become very challenging. As regards the child with ADHD, the involvement and input of the teacher **“can make all the difference between a healthy and struggling child”** (Brauer, 1999). According to Barbaresi and Olsen (1998) physicians rely on reports from teachers, who play a unique role in the assessment process (Lyon, 1998), to evaluate and treat children with ADHD. However, documented reports indicate that contact between teachers and clinicians is very limited. It has been reported in the literature that 86% of teachers had absolutely no contact with physicians involved in the diagnosis and medical management of these children.

Nevertheless, Reichenberg-Ullman and Ullman do acknowledge the difficulty that teachers may experience with a sizeable number of learners who manifest extremely disruptive and disturbing behaviours. It is very challenging for teachers to be able to cope competently with a statistical average of 10 percent of learners having ADHD in classes typified by ever increasing numbers of learners. The extra demands for attention, discipline, and time required to secure the safety of these children and those around them surpasses the capabilities of many teachers.

According to Klopper (2000), teachers and general practitioners are commonly consulted by parents of learners suspected of having ADHD. A severe shortcoming identified is that of a lack of current and recent information about ADHD and medical management among teachers and medical professionals. A possible reason for this is inadequate or inferior quality undergraduate preparation in the area of ADHD. Unfortunately, the biases and misgivings of these professionals can be passed on to parents. Ignorance and sensationalism have also been blamed for the controversy that surrounds ADHD and the prescription of Ritalin. The tendency of the South African education authorities to “gloss over” the problem of learning and behavioural disabilities for political and economic reasons has also influenced perceptions and attitudes toward ADHD and other learning problems. Recognition, acknowledgement and acceptance of these problems makes it obligatory for the authorities to address these problems, something they are not keen to do.

The complexity of ADHD brings to the fore the need to manage it with professional help. If left untreated, ADHD could severely jeopardise an individual's chances to succeed in life. Despite the effectiveness of adjuvant procedures in the treatment of ADHD (Douglas, 1991; Taylor, 1995), treatment effects are enhanced when drug therapy is employed in combination with psychosocial interventions (Cousins & Weiss, 1993). This view is endorsed by professionals, parents and children who believe that psycho-social interventions have immediate relevance to managing the symptoms and behaviours representative of ADHD (Braswell & Bloomquist, 1991). The best possible decision must be made for the individual with ADHD, and if the prescription and use of Ritalin provides a suitable option, then prevailing pessimistic attitudes and perceptions will require a major overhaul.

5.7.2 Caregivers as management agents

Parents are the most valuable source of information for children with ADHD (Lyon, 1998). The discovery that a child has ADHD causes the parents and siblings to experience anger, frustration, grief, guilt and loss that accompany the bereavement process. A period of mourning usually occurs for the "normal child" that had been expected. Aspirations and hopes relating to the development of a normal child are shattered when family members are confronted with a physically and cognitively demanding child whose behaviour challenges conventional expectations.

Caregivers of children with ADHD generally suffer great psychological trauma in their quest for plausible reasons for their children's conditions. Often, guilt and an indomitable sense of personal failure and inadequacy dominate their lives. Aspirant parents who have coveted ideals and lofty hopes for their children are sorely disappointed when their children appear to be repositories of bad impulses. The subsequent realisation that something may be seriously amiss with their children can be devastating and initially this may be met with denial or obscure acceptance. Very often the psychological and physical strain of raising ADHD children is ignored, taken for granted or not even considered. And this is indeed worrying! Parents are the child's foremost teachers and this should never be underestimated. Their perspectives are equally if not more important than other professionals' views and they must be recognised and acknowledged as vital partners in the management and treatment of children with ADHD.

Very often the medical management of children with ADHD becomes exasperating for caregivers and clinicians if they do not share a relationship that is truly co-operative in nature. The medical model has served to entrench the view that medical professionals are endowed with the expertise to tend to the ills of humanity, and in so doing it has reinforced the perception that the knowledge of the medical practitioner should be accepted without question. In South Africa

this is blatantly evident in the complaisant manner and implicit conviction in the clinician's ability to "rectify" the problem. However, the complex nature of ADHD does not allow for a simple, singular treatment modality.

In order to achieve co-operation and true partnership with parents when treating and managing ADHD, it is essential that professionals recognize that the true experts on this one individual child and his or her problems are the parents themselves and they need to be valued as the experts. Parents have to deal with professionals on a regular basis and can prove to be a useful link between health and education and if they are made to feel comfortable in this role it will benefit everyone, especially the children. Unfortunately, professionals can often unintentionally be an extra source of pressure on parents who are already worn down by their child. Many parents are not confident when dealing with doctors or schools and are unable to convey their thoughts or frustrations appropriately. Good communication is the key to good relationships and quite often the simplest ideas are the ones which work most effectively.

5.8 MONITORING OF MEDICATION BY TEACHERS AND CAREGIVERS

Notwithstanding its controversial status, Ritalin is clearly the "*drug of choice*" for those who have experienced the positive effects of the drug. Ritalin is seen as only impacting on the symptoms of ADD. Once it has been determined that Ritalin is beneficial to a particular child, the medication is prescribed on a long-term basis for many years if necessary, irrespective of the age at which treatment with Ritalin was commenced (Levine, 2000).

Teachers play a fundamental role in assisting to monitor medication and enhancing the effectiveness of medical treatment. Therefore it is imperative that they be made aware of any learner who is on medication as they can provide valuable feedback regarding the effect of the medication on the learner (Lerner, 1997). Considering that learners spend a significant amount of time with

teachers, teachers are in a prime position to keep physicians and caregivers well informed about the learner's reactions to the medication. This also enables medical professionals to assess the impact of the medication on the learner and to make the necessary adjustments or modifications. The storage and administration of medication at schools has been met with a mixed feelings ranging from open resistance to complaisance. The lack of appropriate policy and guidelines pertaining to the aforementioned and the clear definition of the responsibilities of schools and teachers has served to be a stumbling block in the treatment and management of ADHD.

School reports should also be reviewed to provide insight into the child's scholastic performance. The use of Ritalin must be closely supervised and monitored by caregivers and teachers (Levine, 1998; O'Connor, 1999), and physicians need to re-assess dosages at intervals of at least six months (Levine, 1998). However, this rarely occurs. A teacher in the Northern Province has indicated that although 40% of her class children are taking Ritalin, she has ***"never been consulted, and never been asked"*** about the behaviour of those on Ritalin (O'Connor, 1999). O'Connor points out that these situations ***"reek of abuse and possible misdiagnosis."***

5.9 PSYCHOTHERAPY

Pharmacological intervention used in exclusivity is insufficient for the treatment of ADHD (DuPaul et al, 1991; Perry, Poland, Blakely, Baker & Vigilante, 1995) and a combined course of action including psychotherapy as an integral component is advocated (Taylor, cited in Orford, 1998).

Psychotherapy helps individuals with ADHD to recognize and deflect feelings that create impulsive and aggressive reactions. The benefits of group therapy are apparent in the mutual support that is offered. Support groups provide the forum for caregivers and children to meet others with ADHD, thus facilitating mutual

learning, engendering support (Anastopoulos & Barkley, 1990) and enhancing strengths. The sharing of information and discussion of the features of ADHD also occurs effectively in this interactional context (Hallowell & Ratey, 1996); caregivers and interested persons are able to relate their experiences, engage in problem solving and develop practical management strategies for ADHD children. The enhanced understanding that occurs in this environment makes it possible for caregivers to support their children and to work in consonance with teachers and other professionals. Research data indicates that parents have benefited from engaging with other parents who have similar experiences, thus enabling them to intervene positively.

5.10 COGNITIVE BEHAVIOUR MODIFICATION

Cognitive behaviour modification can be employed by encouraging learners with ADHD to increase their awareness of how they feel, think and behave and the manner in which their actions and behaviour impact on others, the monitoring of behaviour and academic performance is facilitated. In so doing, the development of feelings of competence, enhanced awareness of the need for self-control, internal loci of control, intrinsic motivation, a sense of personal responsibility for independent learning and academic endeavours and effective executive functioning and self-monitoring are promoted. Self-management is promoted amongst those learners with ADHD and disruptive behaviours who are capable of approximating the goal of self-management (Roberts & Dick, 1982; Shapiro et al, 1998).

Acceptance of ADHD and medical management of the condition is a slow process. There is undoubtedly substantial controversy about management options available and education about ADHD is a fundamental aspect of treatment and management (Barkley, 1990; Goldstein & Goldstein, 1990; Hallowell, 1995). With the improvement in the knowledge relating to ADHD,

these options are beginning to increase (O'Connor, 1999) and attitudes are becoming more flexible.

5.11 CONCLUSION

ADHD exerts a ripple effect and disrupts an individual's effective functioning in all areas of life, thus also severely compromising quality of life as well. The psychological impact of the disorder is indeed noteworthy. Negative experiences, demeaning consequences, punishment and reprimands are not foreign to ADHD sufferers. In the absence of stable and supportive family relationships and social networks, ADHD sufferers may be vulnerable to the adverse effects of personal and social stresses. Contextual factors such as inadequate Education Support Services, teachers' inability to cope with the demands of ADHD learners, and a poorly or misinformed public and ignorance, especially of the prescription of medication, also contribute to the exacerbation of the learner's problems.

It is also essential to acknowledge that children with ADHD are not unable to learn or behave well but some are extremely difficult to reach and are simply unavailable for learning. However, with correct treatment and management, the "vast majority of these children will do very well" (Goldstein, 1998).

CHAPTER SIX

FINDINGS, LIMITATIONS AND CONCLUSIONS

This chapter concludes the dissertation. In concluding the dissertation, a synthesis of some of the key points within the focus of the study will be presented, as well as implications of the study for future practices pertaining to the understanding and management of ADHD. The purpose of this study was to determine the perceptions and attitudes of teachers and caregivers towards the prescription of Ritalin as a means of promoting and sustaining on task behaviour in children with ADHD. The conceptual model applied was the biopsychosocial model, which alludes to a systemic perspective that considers the functioning of the individual in totality.

6.1 FINDINGS OF THE STUDY

Information elicited during the course of the study and provided by the research results emphasises the difficulty associated with the management of ADHD, with specific reference to medical intervention. Differing perceptions and attitudes pertaining to medical management as well as ADHD were influenced by a myriad of factors. Those factors considered by the researcher to be salient were explored.

A close examination of the results yields interesting information about the knowledge and understanding that teachers and caregivers have of ADHD and Ritalin, their awareness of the difficulties experienced by children with ADHD and their views pertaining to their roles in the medical management of ADHD. Although teachers and caregivers indicated that their involvement in the diagnostic and management processes of ADHD should not be trivialised, they tended to have little confidence in their abilities to function as important management agents in the medication of ADHD and consequently see

themselves as being inferior to medical professionals who are perceived to possess the necessary knowledge, skills and expertise relating to medical management.

A qualitative analysis of the responses reveals gaps in the knowledge that teachers and parents have about the aetiology of ADHD, medical management of the disorder as well as the importance of other management strategies. Confusion and misperceptions of ADHD behaviours, other childhood conditions and the use of Ritalin as a management component were also perceptible. However, teachers displayed a better understanding of ADHD and drug therapy than caregivers and this appears to be related to their personal and professional knowledge of the disorder, personal initiatives to enhance their knowledge and understanding as well as experience obtained through their daily interactions in a school for specialized education that caters for children who have ADHD and are on Ritalin. Responses from teachers and caregivers also emphasized the dire need for there to be greater public awareness about ADHD and medical management, with specific reference to Ritalin.

This study also demonstrates the need for teachers and caregivers to be well informed regarding medical management as life-changing decisions are effected when an individual with ADHD is prescribed Ritalin or taken off it. The interplay of various considerations that influence prescription decisions, such as diagnosis issues, understanding of ADHD, assessment, diagnostic and management procedures as, well as the roles of teachers and caregivers in all of the aforementioned require greater clarity. A fundamental concern surfacing in this study and which has been neglected in research is the marginalisation of teachers and caregivers and the roles that teachers and caregivers play in the management of ADHD.

6.2 IMPLICATIONS / RECOMMENDATIONS

Results derived from this study clearly highlight the need for teachers and caregivers to be afforded a voice and greater participation in the management of ADHD, especially the medical management. Although there is a greater degree of awareness amongst teachers and caregivers about ADHD and the prescription of Ritalin, clinicians should become more involved in the provision of adequate information to enable teachers and caregivers to effect informed decisions regarding the prescription of Ritalin. There is an additional need for medical practitioners to engage in a collaborative relationship with teachers and caregivers so as to facilitate the appropriate and effective management of children with ADHD.

Implications for education and training programmes are apparent, as teachers and caregivers require knowledge and skills to manage children with ADHD and to have an informed understanding of the different management approaches and their practical utility. This will also impact on their perceptions and attitudes of ADHD and its management. Concerted initiatives should be undertaken in the South African context as there is a glaring lack of research into the needs of children with ADHD, educational provision and management of ADHD.

6.3 LIMITATIONS

Survey questionnaires by virtue of their design have the following limitations: As regards low response rate, repeated attempts to increase the response rate are usually required. This could be costly and time consuming. Verification of responses is difficult as data obtained from questionnaires are characterized by personal responses of respondents and these may be laden with a sense of subjectivity. Hence verification of these responses are usually time consuming, costly and extraneous to the scope of this study.

This study has many limitations. Firstly, the research instrument requires further refinement and modification as it contains superfluous information. Secondly, the cohorts were chosen from a school for specialized education catering for learners with ADHD who are on Ritalin. In this respect, responses may have been biased in favour of Ritalin as teachers and caregivers have prior experience of ADHD and medical management. This also restricts the generalisability of the results as the population of learners at this school is not representative of the greater population in mainstream schools. Also, this school has traditionally catered for White learners and has predominantly White teachers and learners. However, it does offer the opportunity to obtain first hand information pertaining to the positive and negative effects of Ritalin. The size of the cohorts was small, with the teacher and caregiver cohorts being comprised mainly of Whites thereby limiting representativity, generalisability and cross-cultural comparisons. Also, the researcher had no control over the responses of respondents. Teachers and caregivers had significant time to collaborate and refer to other sources so responses received may not be a true reflection of their knowledge and experience of ADHD and Ritalin.

6.4 CONCLUSION

In conclusion, this study provides support for the use of Ritalin as a viable management option for children with ADHD, and within the South African educational context. Although reservations about the use of Ritalin were expressed, these were overshadowed by the support conveyed by caregivers and teachers about the utility value of Ritalin in ameliorating the hallmark symptoms of ADHD. Teachers and caregivers indicated an appreciation of the documented short-term effects of Ritalin, in the context of a multimodal approach to management, based on the recognition that splintering of therapeutic interventions and services would be to the detriment of children with ADHD.

Furthermore, since the long-term effectiveness of medication has not been established as yet and it is evident that interventions other than medical ones are necessary to optimize long-term outcomes and improvement, teachers and caregivers have indicated a willingness to consider other therapeutic perspectives. This view is supported by Cooper and Ideus (1995b) who maintain that medication may be used as an adjunct to psychological treatments in addressing severe problems and that medication alone does not influence long-term improvement in academic performance, emotional development and social behaviour. Additionally, the research literature provides strong support for the use of a multicomponent intervention programme over prolonged periods of time to successfully manage ADHD, given the degree to which impairments associated with ADHD are intractable and pervasive across contexts and caretakers.

Although ADHD is widely recognised as a neurological disorder and a medical problem, medical management is often misunderstood. According to Goldstein (1998), children with ADHD can experience success with the correct treatment and management. A prominent limitation of existing treatment procedures is inherent in the lack of generalisation of intervention effects to times in which, and settings where, treatment is not active. Hence, learners with ADHD do not appear to internalise the benefits that might accrue from treatment (Shapiro et al, 1998). Pessimistic and destructive attitudes and jaundiced perceptions based on a myriad questionable assumptions can be prevented by adopting a humanistic and altruistic approach to viewing children on Ritalin or other stimulant medication as one would any other child prescribed medicine by a doctor to treat a long-term chronic condition (Levine, 1998). Additionally, varied findings from research offer hope for better understanding, effective treatment and the development of favourable attitudes and insightful perceptions about ADHD and its management.

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University of Durban-Westville

FACULTY OF HUMANITIES

SCHOOL OF EDUCATIONAL STUDIES

18 October 2000

DIRECT LINE : (031)204-4604
FAX : (031)204-4866

The Director
South Durban Region
Private Bag X54330
DURBAN
4000

Dear Sir/Madam

RE: PERMISSION TO CONDUCT RESEARCH AT THE BROWN'S SCHOOL

I am a final year post-graduate student currently engaged in the Masters in Educational Psychology programme through the University of Durban-Westville. A requirement for the completion of my degree is a research project, culminating in a dissertation.

My research initiative focuses on exploring the perceptions and attitudes of teachers and caregivers toward the prescription of Ritalin, as a means of promoting and managing on-task behaviour in learners with Attention Deficit Hyperactivity Disorder (ADHD). Essentially, I intend to survey opinions of teachers and caregivers of learners with ADHD, employing a case study approach and utilising questionnaires. My research will be conducted outside normal school hours so as not to infringe on teaching and learning time.

The impetus for my research derives from the resurgence in the controversy that characterises the prescription of Ritalin. It is envisaged that this study will

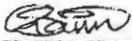
- reveal what motivates teachers and caregivers to effect decisions pertaining to the prescription and use of Ritalin;
- contribute to an understanding of ADHD and the controversy that surrounds the prescription of Ritalin;
- promote an awareness among teachers, caregivers and the general public regarding ADHD and the prescription of Ritalin.

This research initiative has been approved by the University. In view of the research topic and its relevance, The Brown's School would serve as an ideal site to conduct the research. Kindly find herewith copies of the ethical clearance and questionnaires.

I trust that my application for permission to conduct research at The Browns' School will meet with your favourable consideration. Should there be any queries, I may be contacted at:

Tel.: (031) 7003535 – Office Hours
083 384 4172 - From 15h00 daily
Fax: (031) 204-4866

Yours sincerely



**S. HAMID (MRS)
M.ED (ED. PSYCH) STUDENT
UNIVERSITY OF DURBAN-WESTVILLE**



University of
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FACULTY OF HUMANITIES

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18 October 2000

The Principal
Mr Griessel
The Browns' School
Private Bag X04
ASHWOOD
3605

Dear Mr Griessel

RE: PERMISSION TO CONDUCT RESEARCH AT THE BROWN'S SCHOOL

I am a final year post-graduate student currently engaged in the Masters in Educational Psychology programme through the University of Durban-Westville. A requirement for the completion of my degree is a research project, culminating in a dissertation.

My research initiative focuses on exploring the perceptions and attitudes of teachers and caregivers toward the prescription of Ritalin, as a means of promoting and managing on-task behaviour in learners with Attention Deficit Hyperactivity Disorder (ADHD). Essentially, I intend to survey opinions of teachers and caregivers of learners with ADHD, employing a case study approach. Additionally, questionnaires and semi-structured interviews will be utilised. My research will be conducted outside normal school hours so as not to infringe on teaching and learning time.

The impetus for my research derives from the resurgence in the controversy that characterises the prescription of Ritalin. It is envisaged that this study will

- reveal what motivates teachers and caregivers to effect decisions pertaining to the prescription and use of Ritalin;
- contribute to an understanding of ADHD and the controversy that surrounds the prescription of Ritalin;
- promote an awareness among teachers, caregivers and the general public regarding ADHD and the prescription of Ritalin.

Please grant me permission to conduct my research at The Browns' School.

Yours sincerely

S. HAMID (MRS)
M.ED (ED. PSYCH) STUDENT
UNIVERSITY OF DURBAN-WESTVILLE

Dear Teachers, Parents and Caregivers

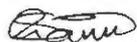
Presently, I am researching perceptions and attitudes of teachers, parents and caregivers toward the prescription of Ritalin as a means of enabling children learners with Attention Deficit Hyperactivity Disorder (ADHD) to focus, and to curb impulsive and hyperactive behaviours.

The prescription and use of Ritalin has been surrounded by much controversy. This study will reveal what motivates teachers, parents and caregivers to make decisions regarding the prescription and use of Ritalin. It will also provide insight into the knowledge and understanding that teachers, parents and caregivers have of ADHD and Ritalin.

It would be appreciated if you could please complete the attached questionnaire and return to me by 30 November 2000.

All information will be treated with strict confidentiality.

Thank you for your assistance



S. Hamid (Mrs)
c/o The Browns School
Department of Psychology

QUESTIONNAIRE FOR TEACHERS

THE PURPOSE OF THIS QUESTIONNAIRE IS TO OBTAIN **INSIGHT INTO THE PERCEPTIONS AND ATTITUDES OF TEACHERS TOWARDS THE PRESCRIPTION AND USE OF RITALIN AS A MEANS OF PROMOTING AND MANAGING ON - TASK BEHAVIOUR IN LEARNERS WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD).**

ADHD PRESENTS IN TWO WAYS: HYPERACTIVE - IMPULSE BEHAVIOUR AND PROBLEMS OF ATTENTION (ATTENTION DEFICIT). A CHILD / LEARNER MAY PRESENT WITH EITHER ONE OF THESE, OR WITH BOTH.

INFORMATION DISCLOSED IN THIS QUESTIONNAIRE WILL BE TREATED AS CONFIDENTIAL AND WILL BE UTILISED FOR THE PURPOSE OF THIS STUDY. PLEASE INDICATE YOUR **ANSWERS** WITH A TICK IN THE APPROPRIATE BOXES WHERE APPLIABLE.

SECTION A: BIOGRAPHICAL DATA

1. Name of school you are teaching at: _____
2. Type of school: _____
3. Status:
 - 1 Level 1 Teacher
 - 2 Head of Department
 - 3 Other Please specify: _____
4. Gender:
 - 1 Male
 - 2 Female
5. What is your nationality ?
 - 1 South African
 - 2 Other Please specify: _____
6. Which population group do you belong to ?
 - 1 African
 - 2 Indian
 - 3 White
 - 4 Coloured
 - 5 Other Specify: _____

7. Please indicate your age range

- 1 20 - 30 years
- 2 31 - 40 years
- 3 41 - 50 years
- 4 51 years and over

8. What is your highest level of education ?

- 1 Technikon
- 2 College
- 3 University
- 4 Other Specify: _____

9 Kindly indicate the name/s of your qualification/s and area/s of specialisation:

10 How many years of experience do you have teaching learners with ADHD ?

- 1 0 - 5 years
- 2 6 - 10 years
- 3 11 - 15 years
- 4 16 - 20 years
- 5 20 years and more

11 Which phase are you teaching in ?

- 1 Pre - Primary
- 2 Junior Primary
- 3 Senior Primary
- 4 Junior Secondary
- 5 Senior Secondary

12 What grade are you teaching at present ?

- 1 Pre - Primary
- 2 Reception
- 3 1
- 4 2
- 5 3
- 6 4
- 7 5
- 8 6
- 9 7
- 10 8
- 11 9
- 12 Other Specify: _____

SECTION B: DIAGNOSIS OF ADHD AND PRESCRIPTION OF MEDICATION (RITALIN)

1. Please indicate the number of learners in your class ?

Males	Females	Total

2. Kindly indicate the number of learners in your class who have been diagnosed with ADHD:

Males	Females	Total

3. Who has made the diagnosis ?

- 1 General Practitioner (GP)
- 2 Peadiatrician
- 3 Other Specify: _____

4. How many of these learners have been prescribed Ritalin ?

Males	Females	Total

5. Are there learners who have been diagnosed with ADHD/ADD and who do not take Ritalin ? If your answer is yes, please specify the medication / preparations / solutions / substances that are being taken.

- 1 No
- 2 Yes _____

6. Kindly indicate the number of learners from each race group who have been prescribed / are taking Ritalin ?

- 1 Black
- 2 Indian
- 3 White
- 4 Coloured
- 5 Other Specify : _____

SECTION C: ADHD AND RITALIN

1. What is your understanding of ADHD ?

2. How did you arrive at this understanding of ADHD ?

3. Do you think that ADHD is 'treatable'?

1 Yes

2 No

Please explain

4. Do you consider Ritalin to be a suitable means of managing children / learners with ADHD?

1 Yes

2 No

Please give a reason / s :

5. Has adequate information been provided regarding ADHD ?

1 Yes

2 No

6. Has adequate information been provided regarding the management of a child / learner with ADHD ?

1 Yes

2 No

7. Has adequate information been provided regarding the prescription and use of Ritalin?

1 Yes

2 No

8. Have attempts been made to find information on or to enhance your knowledge of ADHD?

1 Yes

2 No

9 If yes, how have you attempted to enhance your knowledge and understanding of ADHD?

- 1 Workshop attendance
- 2 Conference attendance
- 3 Seminars
- 4 Reading material
- 5 Support groups
- 6 Networking
- 7 Electronic media
- 8 Other Specify: _____

10 Kindly indicate what you know about Ritalin ?

11 How or where did you access this information ?

SECTION D: PRESCRIPTION AND USE OF RITALIN

1. When should the prescription and use of Ritalin be considered ?

2. What should Ritalin be prescribed for ?

3. Who should decide whether Ritalin should be prescribed ?

- | | |
|---|--|
| 1 <input type="checkbox"/> Parent | 4 <input type="checkbox"/> Paediatrician |
| 2 <input type="checkbox"/> Teacher | 5 <input type="checkbox"/> Other |
| 3 <input type="checkbox"/> General Practitioner | Please specify _____ |

4. Please provide a reason/s for your response above ? _____

5. What factors have influenced your decision regarding the prescription or non - prescription of Ritalin ?

6. Do you think that Ritalin is affordable ?

- | | |
|--------------------------------|-------------------------------|
| 1 <input type="checkbox"/> Yes | 2 <input type="checkbox"/> No |
|--------------------------------|-------------------------------|

7. Is it easily accessible ?

- | | |
|--------------------------------|-------------------------------|
| 1 <input type="checkbox"/> Yes | 2 <input type="checkbox"/> No |
|--------------------------------|-------------------------------|

8. If applicable, where do you obtain Ritalin ?

- | | |
|---|-----------------------------------|
| 1 <input type="checkbox"/> Pharmacy | 4 <input type="checkbox"/> Clinic |
| 2 <input type="checkbox"/> General Practitioner | 5 <input type="checkbox"/> Other |
| 3 <input type="checkbox"/> Hospital | Please specify _____ |

17. In your opinion, does the prescription and use of Ritalin impact on the psychological status of the child / learner ?

1 Yes

2 No

Please provide a reason/s for your response. _____

18. Do you have any concern/s regarding the use of Ritalin by children / learners ?

1 Yes

2 No

Please specify: _____

19. Do you think there may be a risk of abuse or addiction to Ritalin ?

1 Yes

2 No

Please explain briefly: _____

20. Do you think there are physical side - effects associated with the use of Ritalin ?

1 Yes

2 No

Please explain briefly: _____

* * * *

21. In your opinion, is it necessary to medicate children / learners with ADHD ?

1 Yes

2 No

Please provide a reason/s: _____

22. Do you think there are alternatives to medication ?

1 Yes

2 No

If so, please specify: _____

* * * *

23. Children / learners who are on Ritalin should be monitored carefully. Please indicate whether you:

1 agree

2 disagree

Please provide a reason/s: _____

24. Who should monitor children / learners with ADHD ?

1 Teachers

4 Paediatrician

2 Parents

5 Other Specify: _____

3 General Practitioner

25. How should children / learners on Ritalin be monitored or followed up ?

* * * *

26. How did you feel when ADHD was diagnosed for your child / learner ?

27. Describe your feelings when you were informed that ADHD should be ' treated ' with Ritalin.

28. Have your feelings changed since then ?

1 Yes

2 No

If so, how have they changed ? _____

* * * *

29. Do you think that Ritalin is:

1 Short term medication

2 Long term medication

30. In your opinion, is ADHD a lifelong condition that requires Ritalin as a form of treatment?

1 Yes

2 No

Please provide a reason / s : _____

31. Considering that Ritalin is a drug, how do you feel about the prescription of Ritalin for children ? _____

32. What is your attitude toward the prescription of Ritalin for children ?

* * * *

33. Ritalin is being prescribed for the benefit of teachers and / or caregivers.

1 agree

2 disagree

Please provide a reason/s for your choice: _____

34. The use / lack of use of Ritalin can be used as an excuse for certain unacceptable / different behaviours. Kindly comment on this statement.

35. In your opinion has Ritalin been effective in the treatment of the child / learner ?

1 Yes

2 No

3 Other

Specify _____

Please explain your response briefly: _____

36. Please indicate what you have noticed in terms of :

a) behaviour

b) scholastic performance

c) other (specify)

SECTION E: CULTURAL PERCEPTIONS OF ADHD, MEDICATION AND CHILDREN / LEARNERS WITH ADHD.

In your **culture**:

1. Is ADHD considered as a 'problem' or condition that requires medication ?

1 Yes

2 No

Please explain:

2. Is medication (Ritalin) an acceptable form of treatment for children / learners with ADHD?

1 Yes

2 No

Please explain:

3. How are children / learners with ADHD perceived ?

4. What forms of intervention are effected for children / learners with ADHD ?

Is there anything you would like to add ?

THANK YOU FOR YOUR TIME and EFFORT INVESTED in completing this questionnaire.

QUESTIONNAIRE FOR PARENTS / CAREGIVERS

THE PURPOSE OF THIS QUESTIONNAIRE IS TO OBTAIN INSIGHT INTO THE PERCEPTIONS AND ATTITUDES OF PARENTS AND CAREGIVERS TOWARDS THE PRESCRIPTION AND USE OF RITALIN AS A MEANS OF PROMOTING ON - TASK BEHAVIOUR IN LEARNERS WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD).

ADHD PRESENTS IN TWO WAYS: HYPERACTIVE - IMPULSE BEHAVIOUR AND PROBLEMS OF ATTENTION (ATTENTION DEFICIT). A CHILD / LEARNER MAY PRESENT WITH EITHER ONE OF THESE, OR WITH BOTH.

INFORMATION DISCLOSED IN THIS QUESTIONNAIRE WILL BE TREATED AS CONFIDENTIAL AND WILL BE UTILISED FOR THE PURPOSE OF THIS STUDY. PLEASE INDICATE YOUR **RESPONSES** WITH A TICK IN THE APPROPRIATE BOXES WHERE APPLICABLE.

SECTION A: BIOGRAPHICAL DATA

1. Name of school child / learner is attending: _____

2. Status:

1 Biological parent

2 Foster parent

3 Guardian

4 Other

Specify: _____

3. Gender:

1 Male

2 Female

4. What is your nationality ?

1 South African

2 Other Specify: _____

5. Which population group do you belong to ?

1 Black

4 Coloured

2 Indian

5 Other Specify: _____

3 White

6. Please indicate your age range

1 20 - 30 years

3 41 - 50 years

2 31 - 40 years

4 51 years and over

7. What is your highest level of education ?

1 No schooling

5 College

2 Primary education

6 University

3 Secondary education

7 Other Specify: _____

4 Technikon

8. Please indicate your highest qualification achieved:

1 Matric

5 Honours Degree

2 Technical

6 Masters Degree

3 Diploma

7 Doctorate

4 Undergraduate/Bachelors Degree 8 Other Specify: _____

9 Kindly indicate the name/s of your qualification/s and areas of specialisation:

10 Please state your occupation: _____

11 in which range is your gross monthly income located ?

1 less than R 1200 per month

2 approximately R 1201 - R 5000 pm

3 approximately R 5001 and above

12 What grade is your child in presently ?

1 Pre - Primary

7 5

2 Reception

8 6

3 1

9 7

4 2

10 8

5 3

11 9

6 4

12 Other Specify: _____

SECTION B: DIAGNOSIS OF ADHD AND PRESCRIPTION OF MEDICATION (RITALIN)

1. How many children are there in the family ?

1 1
2 2

3 3
4 Other Specify: _____

2. How many of these children have ADHD ?

1 1
2 2

3 3
4 Other Specify: _____

3. Are any of these children on Ritalin ?

1 Yes

2 No

If yes, please indicate the number of children:

1 1
2 2

3 3
4 Other Specify: _____

4. What is the birth order of the child / children who are on Ritalin ? (eg. First born)

5. Kindly indicate the reason/s for taking Ritalin?

6. What processes were followed before Ritalin was prescribed ? (Indicate briefly)

7. Has a formal diagnosis been made regarding the child's condition ?

1 Yes

2 No

8. If yes, who made the diagnosis ?

1 General Practitioner (GP)

3 Other Specify: _____

2 Paediatrician

9. On what basis was the diagnosis made ?

1 Observed behaviour

5 Neurological examination

2 Teachers reports

6 Paediatric examination

3 School reports

7 Other Specify: _____

4 Parent reports

10. Who prescribed the medication (Ritalin) initially ?
1 General Practitioner (GP) 3 Other Specify: _____
2 Paediatrician

11. Who has continued to prescribe the medication (Ritalin) ?
1 General Practitioner (GP) 3 Other Specify: _____
2 Paediatrician

12. For how long has / had the child been taking Ritalin ?
1 less than 1 year 3 2 - 3 years
2 1 - 2 years 4 Other Specify: _____

13. If the use of Ritalin has been discontinued, kindly provide reasons:

14. Have any alternative medications or alternatives to medication been tried ?
1 Yes 2 No
If yes, please provide more information:

SECTION C: ADHD AND RITALIN

1. What is your understanding of ADHD ?

2. How did you arrive at this understanding of ADHD ?

3. Do you think that ADHD is 'treatable'?

1 Yes

2 No

Please explain

4. Do you consider Ritalin to be a suitable means of managing children / learners with ADHD?

1 Yes

2 No

Please give a reason / s :

5. Has adequate information been provided regarding ADHD ?

1 Yes

2 No

6. Has adequate information been provided regarding the management of a child / learner with ADHD ?

1 Yes

2 No

7. Has adequate information been provided regarding the prescription and use of Ritalin?

1 Yes

2 No

8. Have attempts been made to find information on or to enhance your knowledge of ADHD?

1 Yes

2 No

9 If yes, how have you attempted to enhance your knowledge and understanding of ADHD?

- 1 Workshop attendance
- 2 Conference attendance
- 3 Seminars
- 4 Reading material
- 5 Support groups
- 6 Networking
- 7 Electronic media
- 8 Other Specify: _____

10 Kindly indicate what you know about Ritalin ?

11 How or where did you access this information ?

SECTION D: PRESCRIPTION AND USE OF RITALIN

1. When should the prescription and use of Ritalin be considered ?

2. What should Ritalin be prescribed for ?

3. Who should decide whether Ritalin should be prescribed ?

1 Parent

4 Paediatrician

2 Teacher

5 Other

3 General Practitioner

Please specify _____

4. Please provide a reason/s for your response above ?

5. What factors have influenced your decision regarding the prescription or non - prescription of Ritalin ?

6. Do you think that Ritalin is affordable ?

1 Yes

2 No

7. Is it easily accessible ?

1 Yes

2 No

8. If applicable, where do you obtain Ritalin ?

1 Pharmacy

4 Clinic

2 General Practitioner

5 Other

3 Hospital

Please specify _____

9. In your opinion, what is the youngest age at which Ritalin should be prescribed and used? Please provide a reason/s for your answer.

1 less than 3 years

5 6 - 7 years

2 3 - 4 years

6 7 - 8 years

3 4 - 5 years

7 Other Specify: _____

4 5 - 6 years

10. Should Ritalin be taken daily on:

1 Weekdays

2 Weekends

3 Holidays

Please explain your choice/s: _____

11. Should the child / learner have 'time off' Ritalin?

1 Yes

2 No

Why do you think so? _____

12. When should this occur?

1 Weekends

2 Holidays

3 Other Specify: _____

13. For how long should the child / learner be 'off' Ritalin?

14. Do you think that Ritalin is being prescribed more often now than before?

1 Yes

2 No

15. What do you see as a possible reason/s for this?

16. Do you think that ADHD IS:

Underdiagnosed

1 Yes

2 No

Overdiagnosed

1 Yes

2 No

* * * *

17. In your opinion, does the prescription and use of Ritalin impact on the psychological status of the child / learner ?

1 Yes

2 No

Please provide a reason/s for your response. _____

18. Do you have any concern/s regarding the use of Ritalin by children / learners ?

1 Yes

2 No

Please specify: _____

19. Do you think there may be a risk of abuse or addiction to Ritalin ?

1 Yes

2 No

Please explain briefly: _____

20. Do you think there are physical side - effects associated with the use of Ritalin ?

1 Yes

2 No

Please explain briefly: _____

* * * *

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2 No

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2 No

If so, please specify: _____

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1 Yes

2 No

Please explain:

2. Is medication (Ritalin) an acceptable form of treatment for children / learners with ADHD?

1 Yes

2 No

Please explain:

3. How are children / learners with ADHD perceived ?

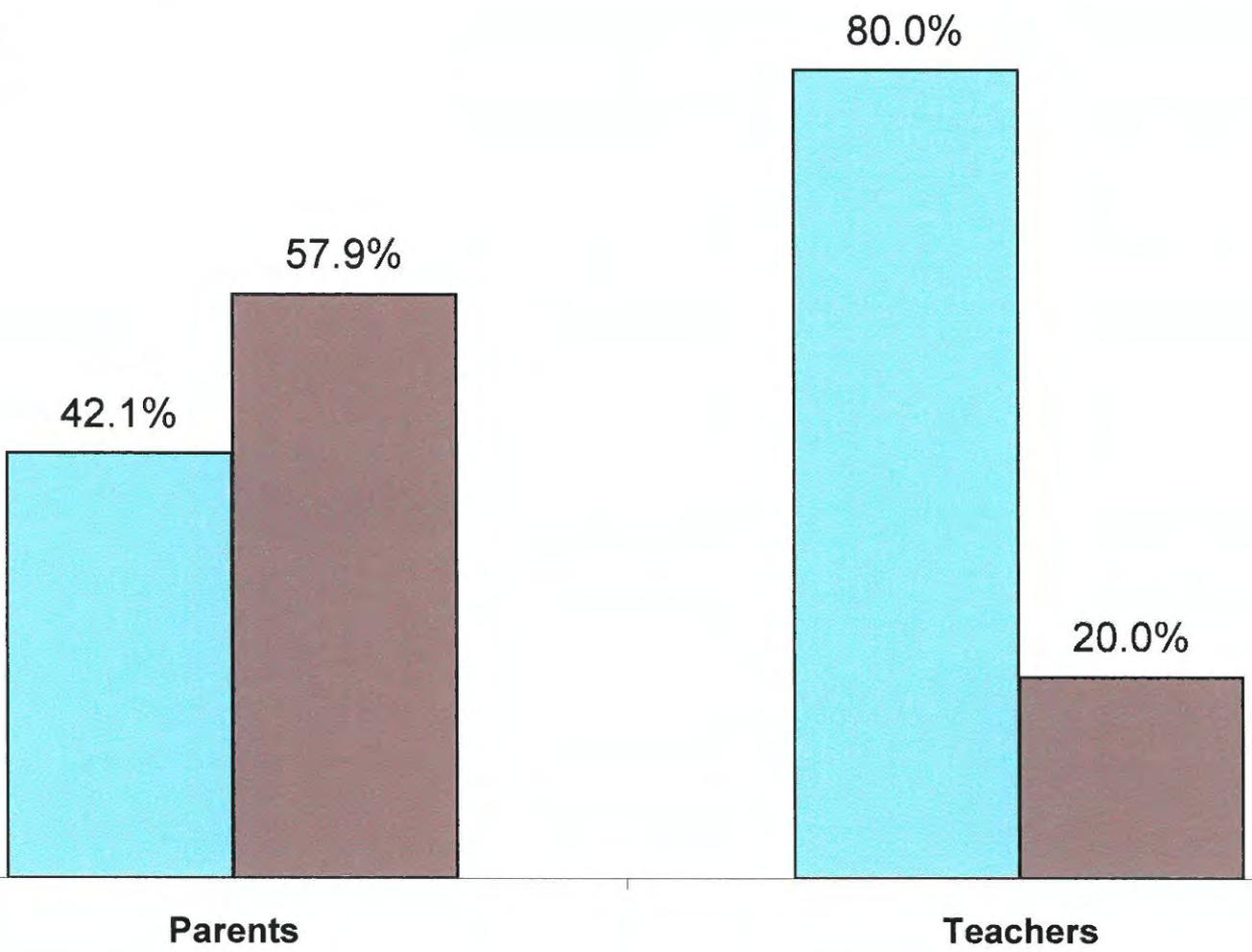
4. What forms of intervention are effected for children / learners with ADHD ?

Is there anything you would like to add ?

THANK YOU FOR YOUR TIME and EFFORT INVESTED in completing this questionnaire.

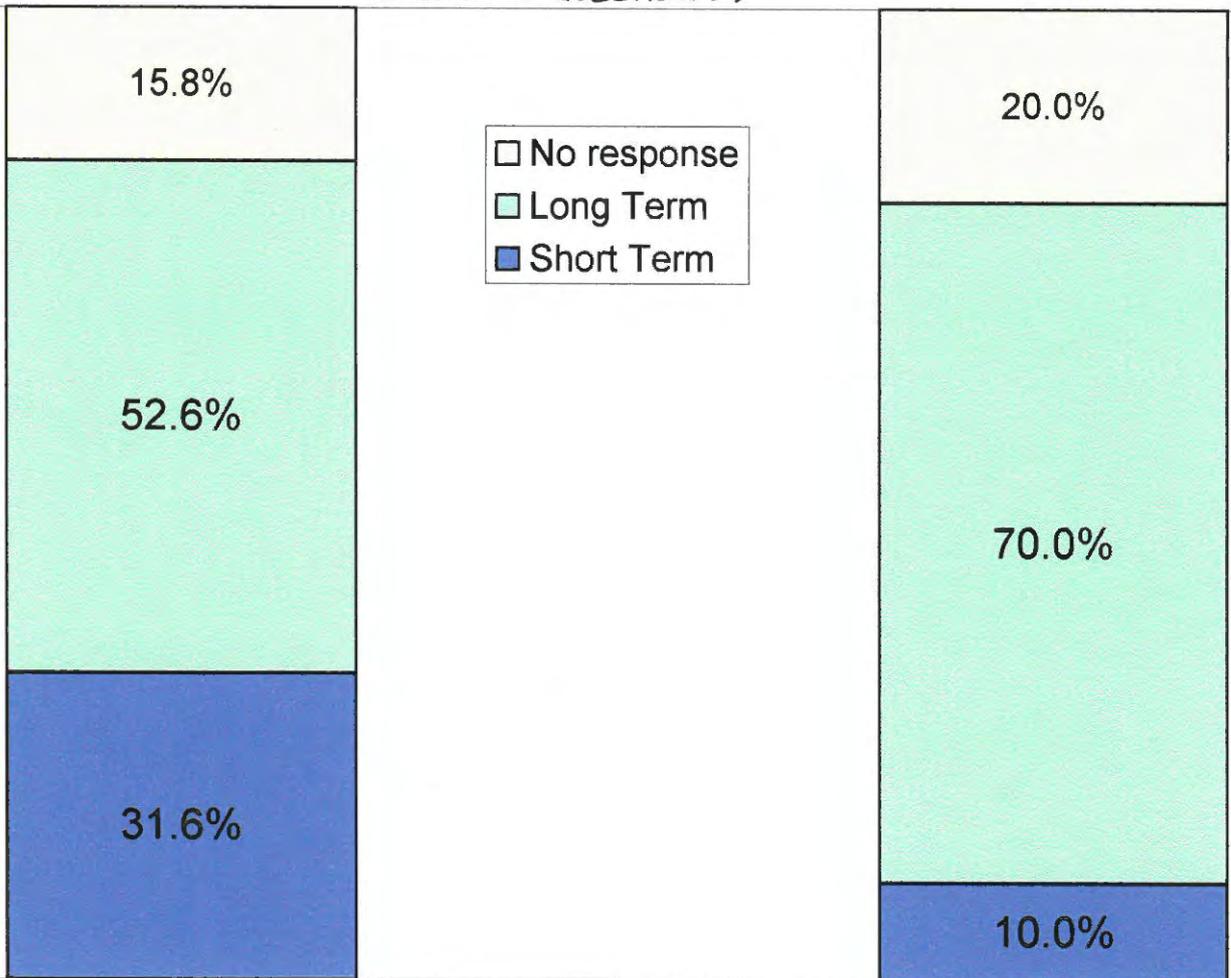
SECTION C QUESTION 5

Yes
No



Has adequate information been provided regarding ADHD?

SECTION D QUESTION 29

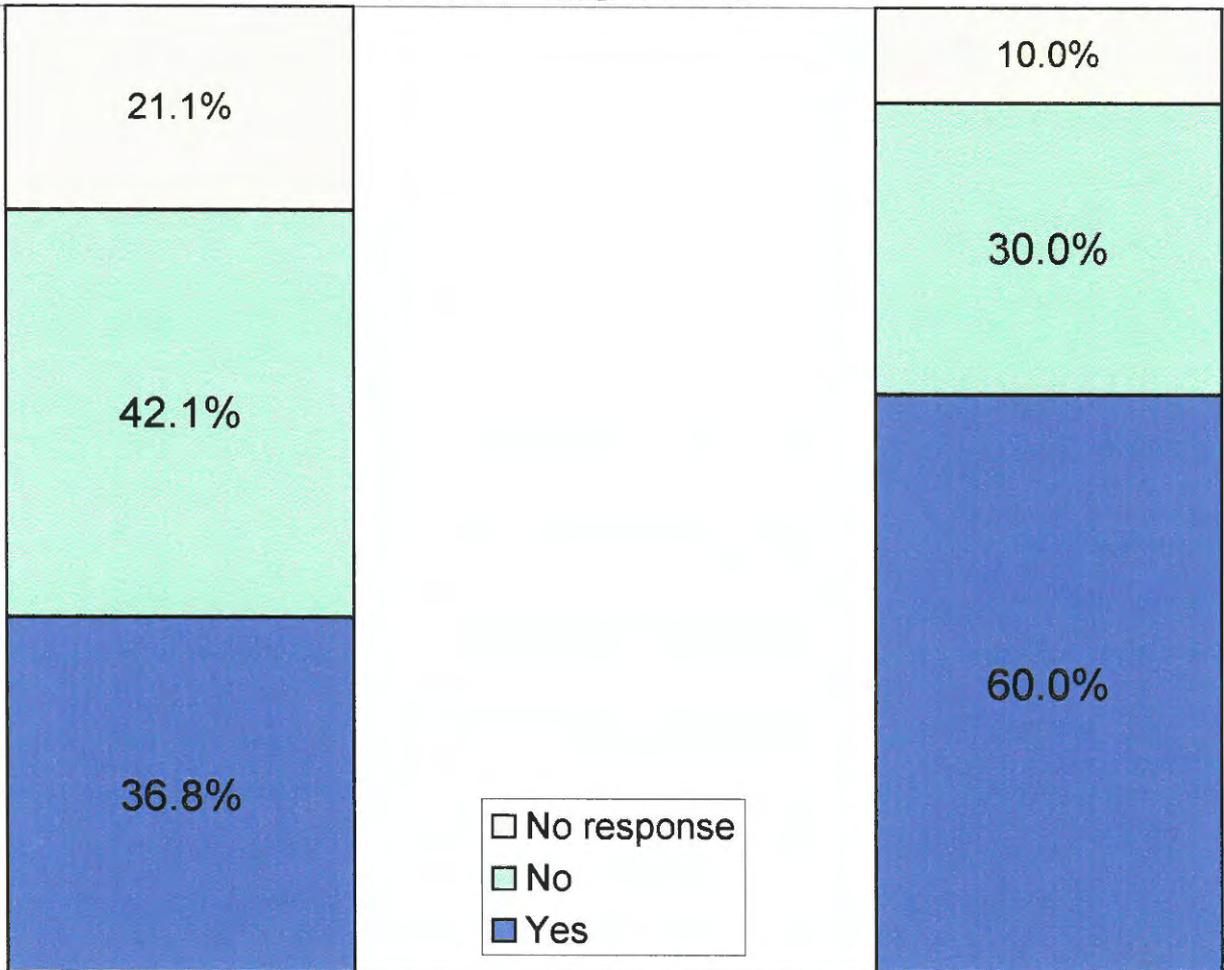


Parents

Teachers

Is Ritalin short-term or long-term medication?

SECTION D QUESTION 30

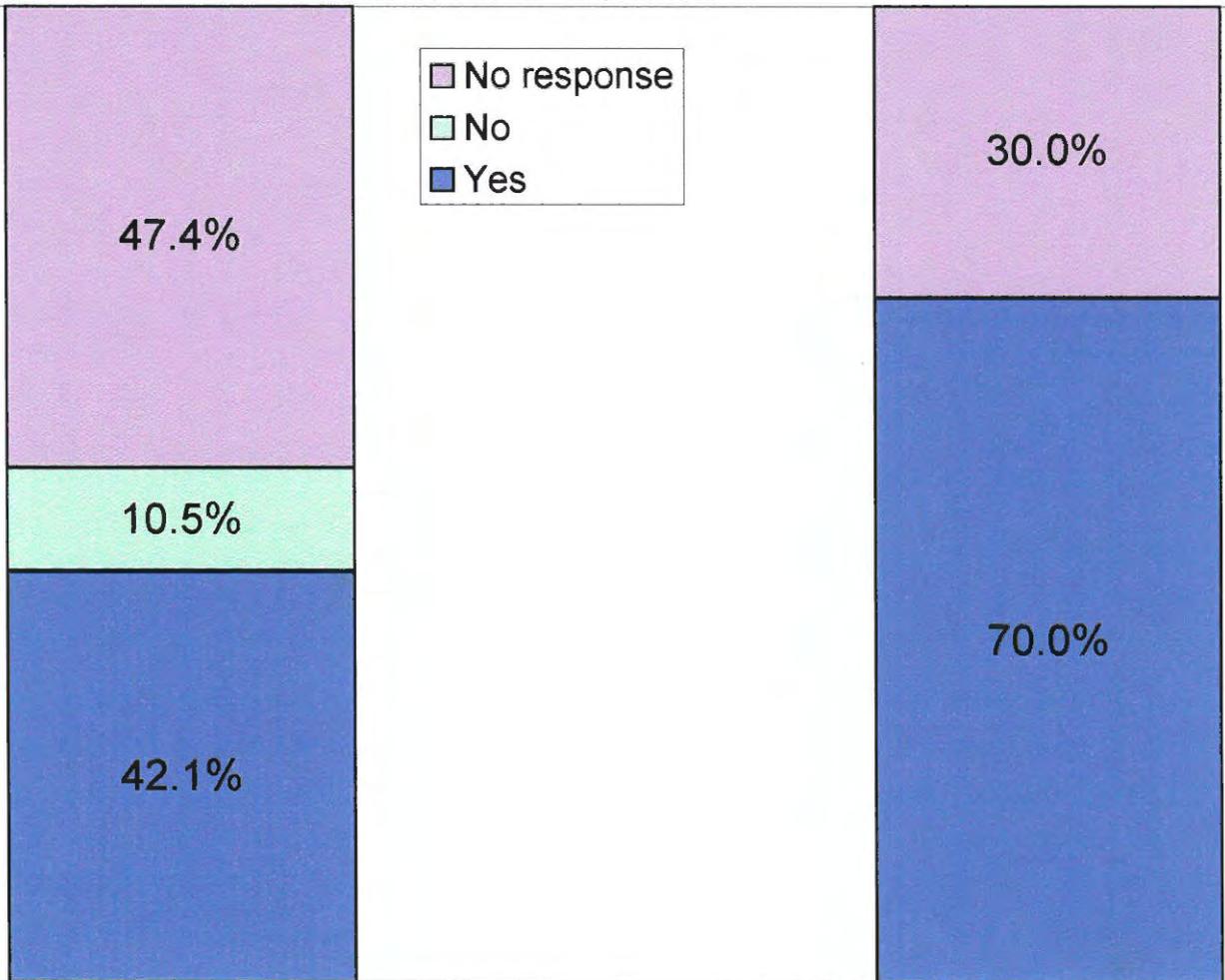


Parents

Teachers

Is ADHD a lifelong condition that requires Ritalin as a form of treatment?

SECTION E QUESTION 1

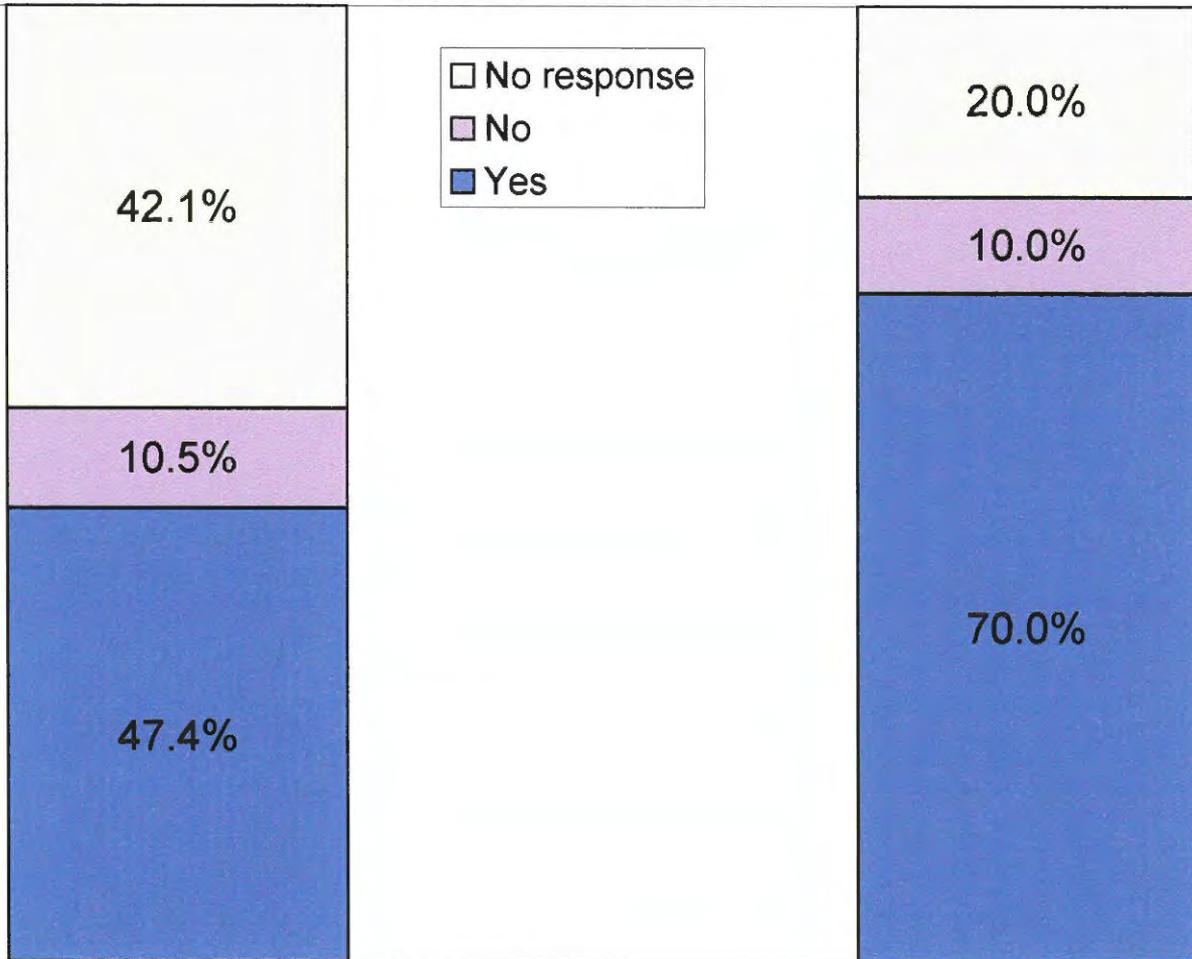


Parents

Teachers

Is ADHD considered as a problem or condition that requires medication?

SECTION E QUESTION 2

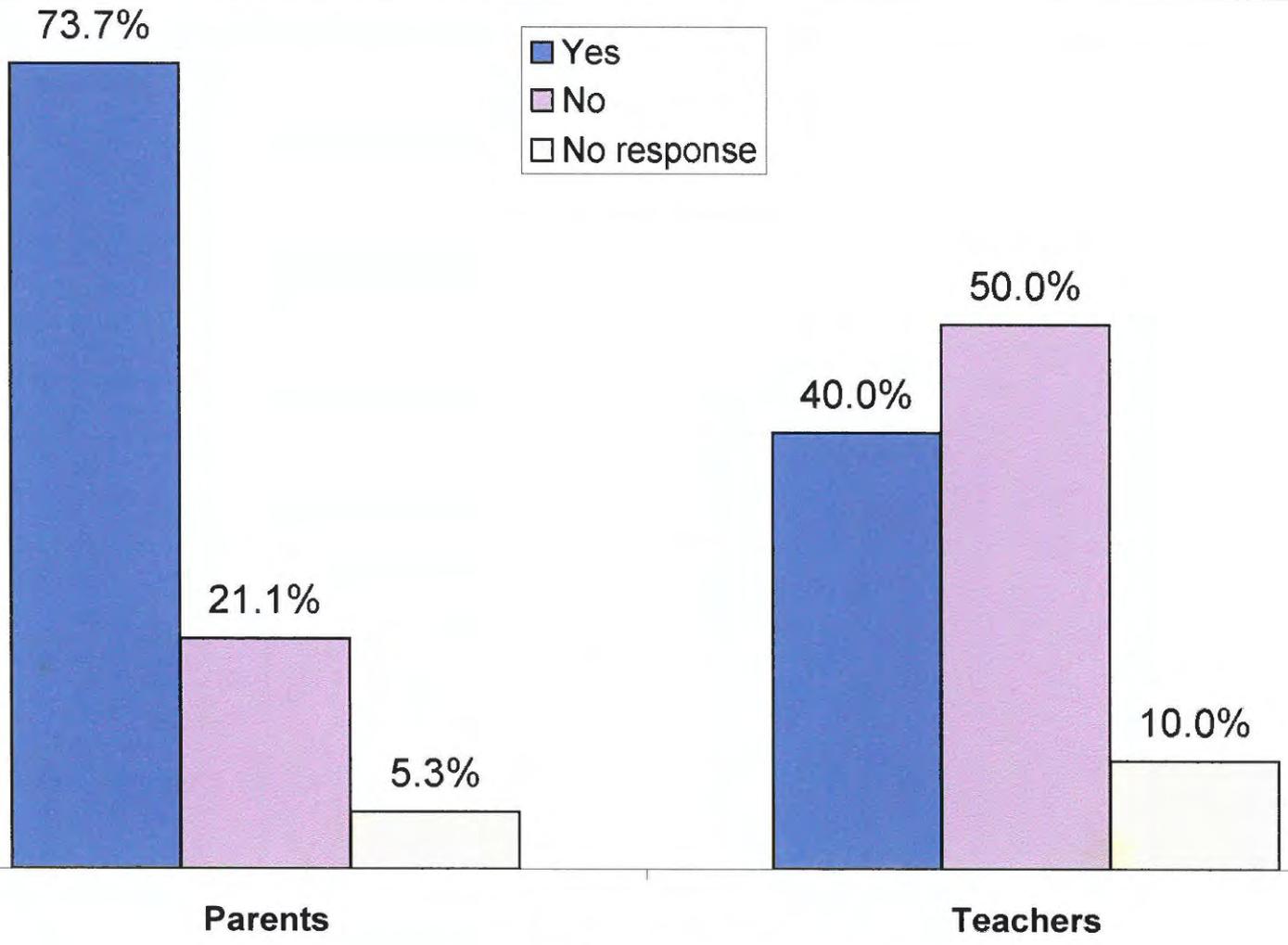


Parents

Teachers

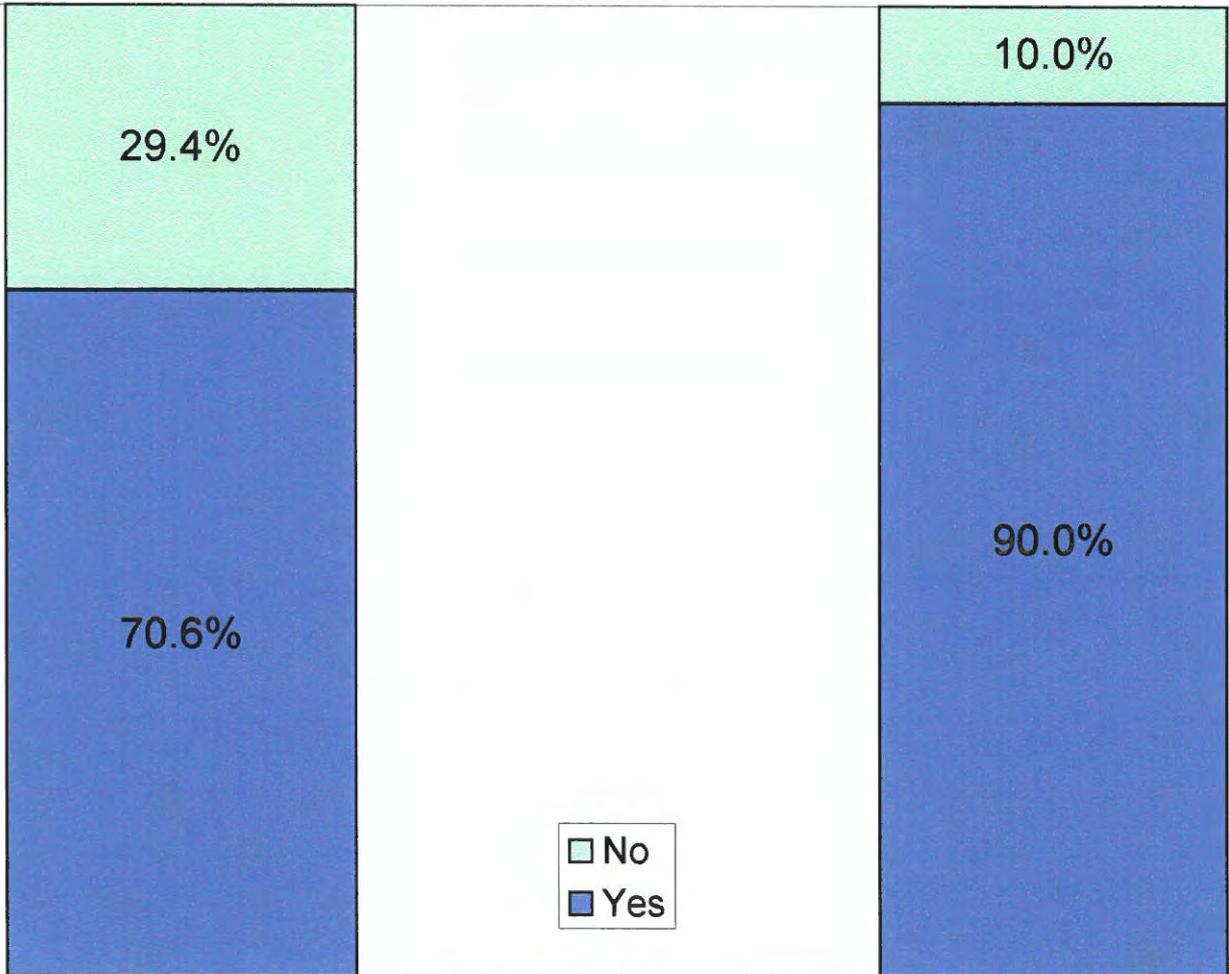
Is Ritalin an acceptable form of treatment for children/learners with ADHD?

SECTION D QUESTION 19



Is there a risk of abuse/addiction to Ritalin?

SECTION D QUESTION 20

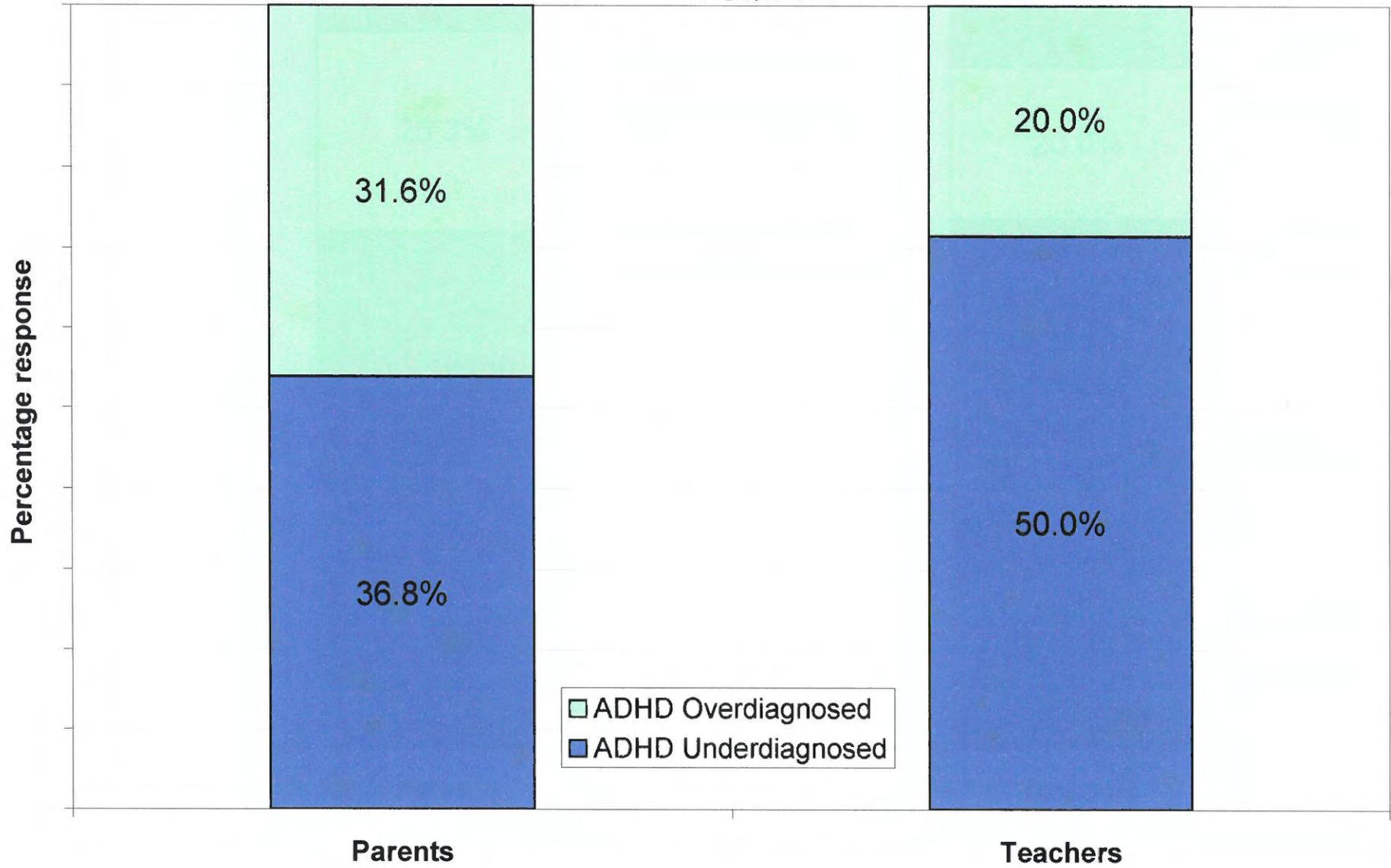


Parents

Teachers

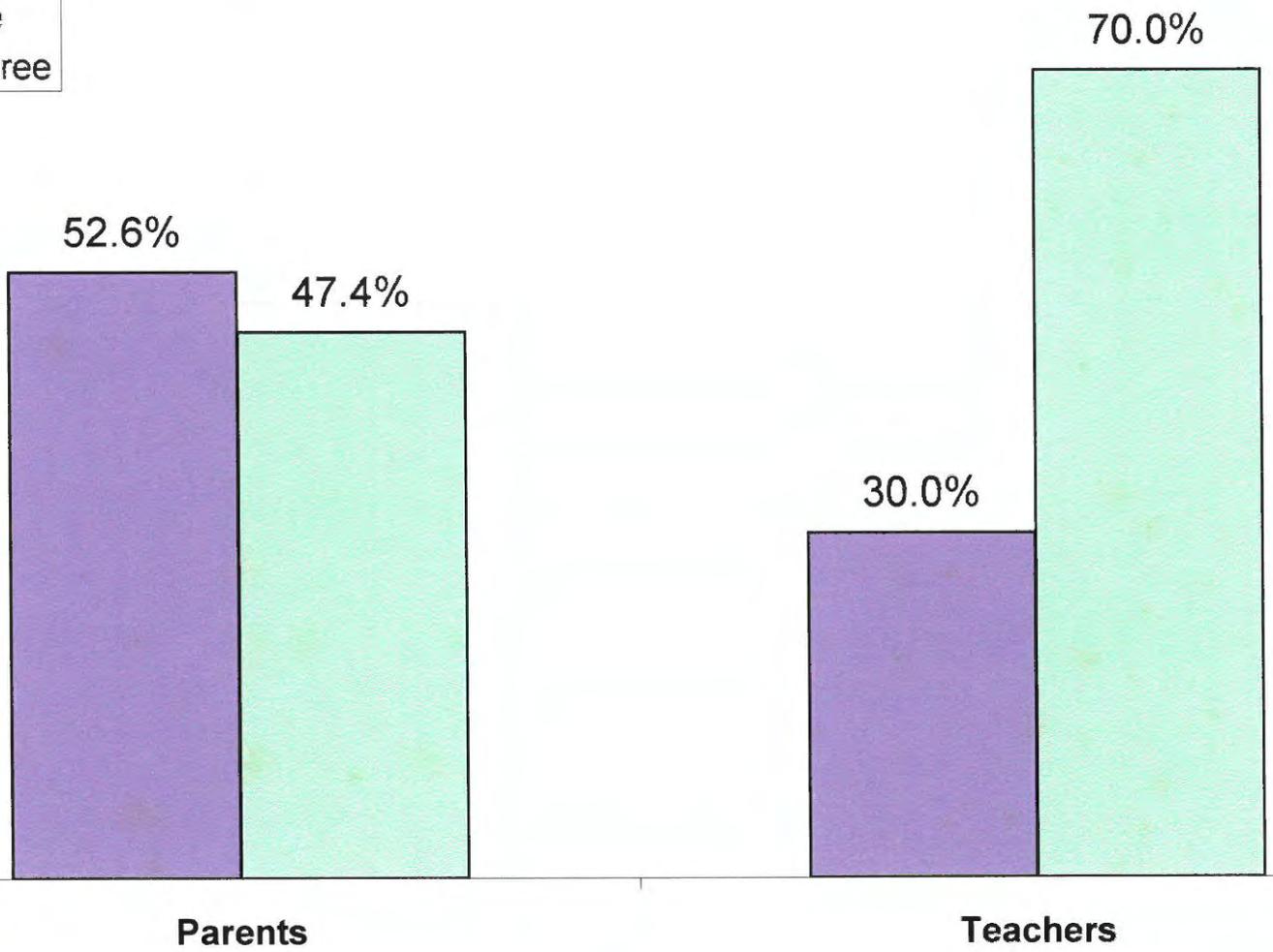
Do you think there are physical side-effects associated with use of Ritalin?

SECTION D QUESTION 16



SECTION D QUESTION 33

■ Agree
■ Disagree



Ritalin is being prescribed for the benefit of teachers and or caregivers