

**THE PREVALENCE OF ATTENTION DEFICIT HYPERACTIVITY DISORDER
AMONG PREPARATORY SCHOOL CHILDREN IN THE SOUTH METRO
DISTRICT IN THE WESTERN CAPE**

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DECLARATION

I declare that: "The prevalence of Attention Deficit Hyperactivity Disorder among preparatory school children in the South Metro District in the Western Cape" is my own work and all the sources utilized have to the best of my knowledge been acknowledged.

M.S.SYMONS

DATE

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ABSTRACT

There is a tendency for children who display unacceptable behaviour to be described as having Attention Deficit-Hyperactivity Disorder when the actual reason for the child's diagnosis may simply be affective factors, another disorder or simply misbehaviour. ADHD is the most commonly diagnosed child disorder affecting 3-5% of all school age children.

The aim was to investigate the prevalence of Attention Deficit-Hyperactivity Disorder in a sample of Foundation Phase children at an Inclusive ex Model C Preparatory School in the South Metro, Western Cape, by uncovering the criteria that are used by their teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a child for a referral to a parent, therapist or professional.

This study used a phenomenology design making use of interpretations, meanings and an individual's opinions regarding the teacher's criteria, which relate to the diagnosis of ADHD. It required a qualitative analysis with the emphasis on observation, interviews and document analysis. A verbal Interview consisting of questions which were taped and transcribed, as well as an observation, and completion of a Connors Form of the selected children was completed by the teachers. Ten class teachers were interviewed and seven children from Grades one, two and three were observed.

A model from Creswell was used, in order to identify the units of meaning relating to the prevalence of ADHD amongst learners in the South Metro District. The findings include lack of understanding of ADHD amongst teachers, subjectivity in the diagnosis of learners with ADHD, factors influencing the diagnosis of ADHD, criteria necessary to identify ADHD and stereotyping differences.

Key words: Attention Deficit-Hyperactivity Disorder, Foundation Phase, South Metro, Inclusive ex Model C Preparatory School and Prevalence of ADHD.

LIST OF ABBREVIATIONS AND ACRONYMS

DoE	Department of Education
FP	Foundation Phase
HOD	Head of Department
IE	Inclusive Education
ILST	Institutional Based Support Team
LST	Learning Support Teacher
LSEN	Learners with Special Educational Needs
SASA	South African Schools Act
SBST	School Based Support Team
SGB	School Governing Body
WP6	White Paper 6 on Special Needs Education: Building an Inclusive Education and Training System
ADHD	Attention Deficit Hyperactivity Disorder
DSM	Diagnostic and Statistical Manual of Mental Disorders

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 BACKGROUND TO THE STUDY

Attention Deficit Hyperactivity Disorder (ADHD) is generally considered the most commonly diagnosed child behaviour disorder. It affects approximately 3-5% of all school age children. ADHD is diagnosed three times more in boys than girls. ADHD often re-occurs within the family setting (Kewley, 2011:11; O'Regan, 2014:8, 74).

Barkley (2015:74) states that the prevalence of ADHD in children is on average 5-7% while in adults it is 3-5%. ADHD's prevalence is considered universal. A problem in determining prevalence of ADHD is that of determining when it is considered normal or a deviant behaviour. An important criterion to be considered regarding the prevalence of ADHD is how cases are identified by the school, teacher, parents or professionals.

The actual diagnosis of ADHD is often influenced by gender and also a non-adherence to the typical diagnostic criteria. This often results in an over diagnosis, particularly amongst boys, since they typically don't conform to the expected behaviour. Girls generally tend to conform to the acceptable norms and behaviours. Hence they are not so easily identified as having ADHD (Schelleck & Meyer, 2012:12).

Topkin and Roman (2015) refer to ADHD as being one of the most common chronic conditions of childhood. Teachers are considered to play a vital role in the child's referral and diagnosis. They are to create a positive environment to allow the child to reach their emotional, social and academic potential. The findings of these researchers indicate that teachers had an average knowledge and understanding of the general features related to ADHD. However, the symptoms, diagnosis and treatment were not as well known.

Kern, Amod, Seabi and Vorster (2015:3043) suggest that ADHD is diagnosed in children from three to ten years. This results in a high referral of children to school psychologists, specialists in psychiatry and paediatricians. Class teachers are therefore in an ideal position to identify and refer their concerns regarding the learner's behaviour to the parents, who in turn will refer to the professionals for diagnoses.

Teachers' understanding of ADHD was thought to be influenced by stigma, negative experiences, poor knowledge and understanding of ADHD. The situation may be that the teacher's perceptions of ADHD in the classroom is far too high, which would lead to a misdiagnosis of the actual prevalence rate. This over-diagnosis may result in too many children being incorrectly diagnosed, thereby resulting in unnecessary medication being administered.

Other contributing factors could be that teachers are not specifically trained in the recognition and diagnosis of ADHD. They usually don't realize that comorbid factors also influence ADHD. In reality, teachers are perfectly situated to identify and refer children for assessments. They have personal experiences on a daily basis since they are able to observe and compare how the child reacts in a "formal structured classroom" (Amod, Vorster & Lazarus, 2013).

1.2 MOTIVATION FOR THE STUDY

The researcher is an Educator with 38 years teaching experience in Specialised Education. Professionally and personally the researcher is extremely concerned with the prevalence of the misdiagnosis of Attention Deficit-Hyperactivity Disorder, immediate labelling and often subsequent medication, as well as acceptance that the labelling allows for and excuses the typical disruptive behaviour. Both the parents and the professionals must play a positive part in the diagnosis, otherwise they can be considered at fault since the diagnosis can often be an easy compromise to a problem that should be better researched.

The researcher has been employed from 1978 until the present by the Western Cape Education Department (WCED). Initially the appointment included being a "Special Class Teacher", during which time he taught and was in charge of the Junior, Intermediate and Senior Phase classes at a Government Primary school. During 1994 and 1995 he was a part-time lecturer at University of Cape Town (UCT) in the Education Department, where he lectured in English Reading. At a later stage he obtained a degree from University of South Africa and subsequently was promoted to Head of Department. Finally his passion materialised when he completed a Remedial qualification at UCT. This afforded him the opportunity to work with children who were struggling both academically and emotionally. The researcher often met with various

specialists as a support team to holistically find a way forward for the struggling child. Later, studying through Stellenbosch University where the researcher obtained a Bachelor of Education, Honours, once again provided the opportunity to teach “Learning Support” at an ex model C Government Pre-Preparatory School in the Western Cape.

1.3 STATEMENT OF THE PROBLEM

Currently there is a tendency in the realm of education for problematic children to be misdiagnosed as having Attention Deficit-Hyperactivity Disorder when the reason for the diagnosis may simply be affective factors, another disorder or simply just misbehaviour. This is exacerbated by the fact that Attention Deficit-Hyperactivity Disorder is considered the most commonly diagnosed child disorder. Its prevalence is considered universal (Barkley, 2015:74).

Thus children are often unnecessarily labelled and administered medication, often with detrimental consequences as well as not receiving the correct treatment and support necessary. This problem is exacerbated by the fact that too many children, parents, and teachers are using the Attention Deficit-Hyperactivity Disorder label as an excuse for bad behaviour as well as for poor academic achievements (Kewley, 2011:45). Thus, the core problem, as highlighted in this dissertation, seems to be a lack of understanding on the part of the teachers regarding the diagnosis and misdiagnosis of Attention Deficit-Hyperactivity Disorder. Thus it is considered important to investigate this particular topic.

1.4 RESEARCH QUESTIONS

Due to the prevalence of Attention Deficit-Hyperactivity Disorder, the researcher felt it necessary to investigate, from a teacher’s perspective:

In order to further the topic meaningfully, it was necessary to address the following question:

- What criteria do the teachers use to suggest a possible diagnosis of Attention Deficit-Hyperactivity Disorder?

The following sub-questions were used to explore the research further:

- What is the Teacher's understanding of ADHD?
- What other factors influence the teacher's suspicion that the child may have ADHD?

1.5 AIMS OF THE STUDY

The aim was to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape by uncovering which criteria are used by their teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a child for a referral to a parent/s, therapist or a professional.

To explore the problem further, the following objectives were pursued:

- To establish the teacher's understanding of ADHD.
- To find out what other factors influence the teacher's suspicion that the child may have ADHD.

1.6 SIGNIFICANCE OF THE STUDY

This study could help provide clarity regarding the prevalence of Attention Deficit-Hyperactivity Disorder. It could also provide insight into the diagnostic criteria of Attention Deficit-Hyperactivity Disorder which are most commonly used by teachers to suggest a possible diagnosis, and which are most overlooked. Furthermore, it could also educate teachers with regard to the comorbid factors as well as any other extrinsic or intrinsic influencing factors regarding ADHD. Findings from this study would therefore be useful for policy makers, academics, and teachers, especially those working in an inclusive teaching environment.

1.7 THEORETICAL FRAMEWORK

In this study Bronfenbrenner's Ecological Systems theory was chosen with the purpose of determining the experiences and the understanding of the teachers of the Foundation Phase with regard to the prevalence of ADHD in the Western Cape.

The environment in which the child is situated and studied, being the school system, all forms part of the Ecological Mesosystem. This would include the school, teachers, and educational, physical, psychological, social, cultural as well as environmental aspects.

1.8 RESEARCH METHODOLOGY

The study uses a qualitative approach. It allowed the researcher to determine the participants' understanding of, opinion and feelings about ADHD. The participants were mainly teachers. An interview schedule was used and the researcher taped and transcribed the interviews. Secondly an observation of the selected children who had been identified as having ADHD, was completed (Creswell, 2014:4).

Phenomenological design was used, because the researcher was interested in the experiences from the participant's viewpoint. Interpretations, meanings and individual's opinions regarding the teacher's criteria were elicited. Specifically of interest were those referring to the characteristics the teachers chose regarding the possible identification of the children's behavioural traits which relates to the diagnosis of Attention Deficit Hyperactivity Disorder. Data collection involved interviews with the teachers and observation of the selected children who were professionally classified as being ADHD (Creswell, 2014:14; Leedy & Ormrod, 2014:102,147).

Purposive sampling was chosen so as to select participants who fitted the necessary criteria to illustrate the specific and necessary features the researcher is interested in studying. Foundation Phase teachers were therefore selected (Leedy & Ormrod, 2014:221).

1.9 DELIMITATION OF THE STUDY

Regarding this study the term 'prevalence' of Attention Deficit Hyperactivity Disorder refers to the estimated population of people who have Attention Deficit Hyperactivity Disorder at any specific time. Generally the prevalence of ADHD amongst children is between 3% and 5% (Kewley, 2011:10; O'Regan, 2014:8). The prevalence in this case is to include the comorbidities since often the diagnosis includes it as part of ADHD. The research focussed only on selected foundation phase children and qualified Foundation Phase Teachers at an ex Model C School in the Western Cape. The chosen teachers had experience in teaching children diagnosed with ADHD while the

selected children were those who were officially diagnosed as having ADHD. The focus is thus mainly on intrinsic and extrinsic factors which affect which criteria are used by their teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a child.

1.10 ETHICAL CONSIDERATIONS

Ethical considerations in research were adhered to and appropriate ethical principles were followed with the purpose of producing a feeling of trust between the researcher and the participants (Creswell, 2014:92). This required a letter to the Education Department to request permission to conduct the research at a specific government school. The participant's privacy was imperative and was always maintained. Written and signed consent from all participants was obtained beforehand and it was stated that there would be no payment to participate in the study. The researcher ensured to the best of his ability that the relevant research methods, accuracy of data gathering, processing of information and reporting was obtained. Since this research is conducted on people, the well-being of the research participants must be a top priority. Their anonymity was explained, a signature consenting to participate was obtained prior to the interview, as well as their being able to withdraw if they so desired. Written permission to conduct the study was obtained from the Education Department, teachers and parents.

1.11 DEFINITIONS OF TERMINOLOGY USED IN THIS STUDY

Attention Deficit-Hyperactivity Disorder

Attention Deficit-Hyperactivity Disorder is a syndrome consisting of extreme manifestations of inattention, hyperactivity, as well as impulsivity. In most cases, this manifests in a combination of hyperactivity and impulsivity, whereas in other cases, it can manifest in inattention alone. However, there are also cases wherein all three aspects manifest simultaneously. It is known to cause marked academic, behavioural, and social impairment throughout the life of the individual. To further compound the issue of correctly diagnosing Attention Deficit-Hyperactivity Disorder, which is one of the main concerns of this dissertation, Attention Deficit-Hyperactivity Disorder can also often be comorbid with other disorders, such as conduct disorder, learning disabilities, Tourette syndrome, oppositional-defiant disorder, and developmental coordination

disorder (Beers, 2006:6; Elia, Gai, Xie, Perin, Geiger, Glessner, D'arcy, deBerardinis, Frackelton, Kim, Lantieri, Muganga, Wang, Takeda, Rappaport, Grant, Berrettini, Devoto, Shaikh, Hakonarson & White, 2010:637). This study concentrates on children who were diagnosed as ADHD as well as to what criteria were used by teachers in this diagnosis.

Prevalence of Attention Deficit Hyperactivity Disorder

The term prevalence of Attention Deficit Hyperactivity Disorder usually refers to the estimated population of people who have Attention Deficit Hyperactivity Disorder at any given time. Generally the prevalence of ADHD amongst children is 3% - 5% (Kewley, 2011:10; O'Regan, 2014:8). The aim of this study was to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape.

Misdiagnosis

When checking for a misdiagnosis of Attention Deficit Hyperactivity Disorder or confirming a diagnosis of Attention Deficit Hyperactivity Disorder, it is useful to consider what other medical conditions might be possible misdiagnoses or other alternative conditions relevant to diagnosis. These alternate diagnoses of Attention Deficit Hyperactivity Disorder may already have been considered by your doctor or may need to be considered as possible alternative diagnoses or candidates for misdiagnosis of ADHD. Simply put, it is a condition that is diagnosed incorrectly (Right Diagnosis, 2015; Medical Dictionary. The Free dictionary, 2015). Incorrect diagnosis, over diagnosis was of concern in this study.

Inclusion

Inclusion is about recognising and respecting the differences in children, supporting the learners to help them overcome these barriers, and providing support wherever necessary, thus enabling the child to reach his/her full potential (Department of Education, 2001a:16-19); (Department of Education, 2002:5-7). All learners have the right to be taught in an inclusive school environment irrespective of their barrier to learning. The learners also have a right to a correct diagnosis which in itself should enable them to be catered for in the school system.

Barriers to Learning

Barriers to Learning occur when a child faces challenges in the actual learning process. This may be as a result of experiences at the school, in the classroom, the community as well as their health and any disability. ADHD is recognised as a Neurological barrier to learning (Department of Education, 2014:12, 18). Irrespective of the child's barrier to learning, the child must be accommodated in the day to day formalities of the school.

Preparatory School

A Preparatory School is a school catering for children from Grade One to Grade Three. The average age for the child starting school in Grade One is six years. Hence they complete the Preparatory Phase by the age of nine to ten years. This age group is usually where the vast majority of children are initially diagnosed. The researcher chose a school in the Western Cape. The school is an Ex- Model C school, thereby implying a well-resourced school (Department of Education, 2002).

Preparatory School Teacher

A Preparatory School Teacher or a Foundation Phase Teacher is a teacher who completes their qualification in Foundation Training being Grades R to Three. It is presently a four- year, full- time course. The emphasis is on Literacy, Numeracy and Life Skills. The teachers are expected to be able to accommodate inclusivity (Department of Education, 2002). This study concentrated on selected Foundation Phase Teachers who have experience in dealing with children who are diagnosed as ADHD.

1.12 OUTLINE OF THE STUDY

This dissertation has five chapters and is arranged in the following manner:

Chapter One: provides the introduction and background to the study.

Chapter Two: consists of the Literature Review.

Chapter Three: deals with the research design, methodology and research methods.

Chapter Four: presents the collected data and findings.

Chapter Five: draws a conclusion and makes recommendations.

1.13 CONCLUSION

The aim of this chapter was to introduce the topic regarding the prevalence of Attention Deficit-Hyperactivity Disorder and thereby determine what criteria the teachers use to determine whether a child has ADHD. This was to be pertinent to Foundation Phased Teachers and children in the Western Cape.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter Two includes a theoretical framework, literature review, key definitions, relevance and debate regarding the characteristics of Attention Deficit-Hyperactivity Disorder and its prevalence and other possible comorbid conditions.

Kern et al. (2015:3043) state that 3-10% of children are diagnosed with ADHD internationally. According to ADHD support group of South Africa the diagnosis frequency may be as high as 10%. This results in a high referral of children to school psychologists, specialists in psychiatry and paediatricians. Initially ADHD symptoms are evident in the early stages of a formal structured schooling since in the classroom the children are expected to conform, sit still and pay attention for various time intervals. This enables the class teachers to identify and refer their concerns regarding the learner's behaviour to the parents who in turn will refer to the professionals for a diagnosis. Unfortunately, teachers often do not have an in-depth understanding of ADHD. Their understanding of ADHD may be influenced by stigma, negative experiences, poor knowledge & understanding of ADHD. Teachers' perceptions of ADHD in the classroom may be far too high, thus exceeding the reality of ADHD cases. This would lead to misdiagnosis of the actual prevalence rate. It may influence the misdiagnosis being too high thereby occurring as an over-diagnosis resulting in too many children being misdiagnosed, hence administration of unnecessary medication.

Further influencing factors could be that teachers are not specifically trained in the recognition and diagnosis of ADHD. They may not realize that comorbid factors influence ADHD. In reality, teachers are ideally situated to identify and refer children for assessment. They have personal experience on a daily basis where they are able to observe and compare how the child reacts in a "formal structured classroom". They may act as "*extrinsic barriers to learning and development*" (Amod, et al. 2013).

According to an article in Webmed, ADHD in Children: When a Teacher Recognizes ADHD Symptoms, (4 February 2013), teachers are often the first to suspect a child may have Attention Deficit-Hyperactivity Disorder. A reason is that the child's Attention

Deficit-Hyperactivity Disorder can affect their school performance scholastically, and create disruptive behaviour problems. Teachers work the whole day with these learners as well as many other children in the same class and are able to compare them scholastically and behaviourally. The child's teacher can explain the situation to the child's parents and with their permission, refer to the educational psychologist. The Attention Deficit-Hyperactivity Disorder diagnosis is based on their behaviour, in which the teacher is of utmost importance. The actual professional diagnosis is usually done by a trained physician, psychologist, psychiatrist, counsellor or social worker. They will most probably ask the teacher to assist by rating the child's behaviour on a standard evaluation scale.

Pfiffner (2011:157) suggests that the teacher is most likely to be the first to notice ADHD in a child specifically extreme inattention, impulsivity and hyperactivity. The teacher's role is to gather as much information as possible about the child's academic abilities, their behaviour, both present and past. The teacher should inform the parents of the situation. At a later stage the parents should consult with the school psychologist, counsellor, Learning Support Educational Team (LSEN), physicians so as to decide on a way forward.

Attention Deficit-Hyperactivity Disorder is a heterogeneous neurobehavioral disorder that displays or manifests as inattention, hyperactivity, and impulsivity. There is a strong possibility for professionals to diagnose a child as having ADHD, when in reality the problem might be a behavioural issue, or simply a typical normal behaviour. Since it is considered a behaviour disorder, ADHD is difficult to diagnose. This is further compounded by the fact that parents as well as teachers pressurise the medical professionals to prescribe drugs, usually stimulants, even before a medical diagnosis has been made. The reason for this is a "quick fix" or an excuse for the child's is not coping or achieving. (Right Diagnosis ADHD-Institute, 6 May 2012).

2.2 THEORETICAL FRAMEWORK

Swanson (2013) suggests that the concept of theoretical framework introduces and describes the chosen theory. It consists of concepts, definitions and literature as well as theory which is relevant to the study. The theoretical framework should indicate an understanding and a link with the research topic. It should verify what important

variables influence a specific phenomenon. The selection of a framework should depend on the appropriateness to the chosen topic; this study draws from the work of Bronfenbrenner (1979).

2.2.1 Bronfenbrenner's Ecological Systems theory as a Theoretical Framework

Bronfenbrenner Ecological System was designed and developed by Urie Bronfenbrenner to explain how a child's development is influenced by social relationships and the environment. It is a multi-dimensional model regarding human development with interaction between the different models. This result in changes and growth being physical, psychological, social and cultural (Landsberg, Krüger & Swart, 2011:10-15). According to Whitcomb and Merrell (2013:9-11) the five stages of Bronfenbrenner's Ecological Model are as follows:

2.2.1.1 Microsystem

A microsystem is the closest to the individual with the most direct contact. It includes the immediate environments such as the home, family, school, and peers. This is classified as the most influential level of the ecological systems theory.

2.2.1.2 Mesosystem

The mesosystem is to do with the relationship between the microsystems and how this affects the family and the school. The systems don't function independently but are considered interconnected and interactive. These interactions have an indirect impact on the child. This is the system in which the researcher conducted the research.

2.2.1.3 Exosystem

The exosystem implies the child is not personally involved but can still be affected and influenced by the system such as their education and health aspects. This system deviates from the child's immediate environment to include social environment such as influence from community and extended family.

2.2.1.4 Macrosystem

The macrosystem refers to the social, cultural and economic aspects including beliefs, values, attitudes which are applicable to the child's culture and upbringing. Policy is formulated at this level.

2.2.1.5 Chronosystem

The fifth ecological system is the chronosystem. This implies the time factors that occur amongst the ecological systems theory which influences the individual's self-development. The emphasis is now totally on the individual.

2.2.1.6 Summary

A key factor in Bronfenbrenner's Model is the understanding that the child is an active participant within its own personal development. This implies that the environment is not solely responsible for the child's development. According to Amod, et al. (2013) the eco-systemic theory explains how the environment factors can affect the child with ADHD. Factors such as poverty and poor living conditions, family life, parenting styles hence ADHD cannot be viewed in isolation.

A child who is misdiagnosed with ADHD may behave differently when he or she compares his or her behaviour in the presence of the family and at school because human development is influenced by different types of environmental systems.

A multi method approach towards the diagnosis of ADHD is recommended, which includes multiple sources of information from all who are involved with the child. This includes the parents, teachers and various professionals. Information can be obtained via interviews and assessments, rating scales and observations. This compilation of information helps to determine the severity of the symptoms, and how consistently they occur. The multimethod approach helps to alleviate a misdiagnosis (Reid & Johnson, 2012:37- 51).

2.3 LITERATURE REVIEW

2.3.1 PREVALENCE OF ATTENTION DEFICIT HYPERACTIVITY DISORDER

A study by Hinshaw (2002) suggested that girls diagnosed with ADHD have a *“history of speech and language problems, higher rates of anxiety and mood disorder, display a higher level of aggression”* (Wicks & Israel, 2006:250). According to Barkley (2015:74-75) the prevalence of ADHD in children is on average 5-7% while in adults it is 3-5%. ADHD's prevalence is universal. A problem in determining prevalence of ADHD is that of determining when it's considered normal or a deviant behaviour. Factors to be taken into account regarding prevalence (Barkley, 2015:70-73):

- How cases are identified, school, teacher, parents or professionals – the problem is that it does not make use of impairment criterion,
- Clinical interviews and teacher report- advantage is greater accuracy using DSM V criterion (perhaps the most accurate),
- Diagnostic methods- rating scales as opposed to clinical interviews,
- Source of information- one or many – a teacher or multi source,
- Settings – single or multiple,
- Age range.
- Geographic situation – community.

The American Psychiatric Association suggests that approximately 3–7% of school children are diagnosed as having ADHD. Regarding the prevalence of ADHD in preschool, it is suggested to be approximately 2%. Inattention is considered to be the most common occurring symptom amongst pre-schoolers (Henningsfield, 2013:9).

Topkin, et al. (2015) refers to ADHD as being one of the most common chronic conditions of childhood. Teachers are considered to play a role in the child's referral and diagnosis. They also can create a positive environment to enable the child to attain their emotional, social and academic potential. The findings indicate that teachers had an average knowledge and understanding of the general features related to ADHD. However, the symptoms, diagnosis and treatment thereof were not as well known. The above findings concur with those of Perold, Louw & Kleynhans (2010).

Brown (in Cormier, 2008:347) comments on the prevalence rate regarding the diagnosis of ADHD being between the 2-16%. This prevalence is largely influenced by factors such as the diagnostic tools that are chosen and used.

ADHD occurrence may be as high as 25% within close relatives of a child diagnosed with ADHD. There is also a generic correlation between twins having ADHD (Henningsfield, 2013:37). There is also a possibility of between 30-50% that one parent of the ADHD child has the same disorder (Kewley, 2011:13).

The actual percentage of the prevalence of attention deficit hyperactivity disorder is highly debatable since different research has indicated varying statistics depending on a wide range of influencing factors. In the following paragraph the researcher discusses the various aspects of Attention Deficit-Hyperactivity Disorder specifically related to the school scenario.

2.3.2 ATTENTION DEFICIT HYPERACTIVITY DISORDER IN SCHOOLS

Attention Deficit-Hyperactivity Disorder is a syndrome comprising extreme forms of inattention, hyperactivity, and impulsivity. In most cases, this occurs in a combination of hyperactivity and impulsivity, whereas in others it can be shown in inattention alone. However, there are also cases wherein all three aspects manifest simultaneously. It is known to cause academic, behavioural and social impairment throughout the life of the individual. To further compound the issue of correctly diagnosing Attention Deficit-Hyperactivity Disorder, it can also often be comorbid with other disorders, such as conduct disorder, learning disabilities, oppositional-defiant disorder, and developmental coordination disorder, Tourette syndrome, Asperger's Syndrome, depression, anxiety disorders, sleep difficulties, specific learning difficulties, speech and language difficulties, tics and bipolar disorders (Beers, 2006:6; Elia, et al. 2010, 637; Reid & Johnson, 2012:25-31).

Learners in schools are often labelled as having ADHD. The parents, class teacher and other education professionals all play a role in identifying as well as being part of drawing up an Individualised Education Programme for the child. This implies a programme designed specifically to enable the child to work and progress at his/her own level and pace. An Individualised Education Programme must take into account

the child's strengths and weaknesses and also how these should be academically implemented by the teachers as well as the parents of the child concerned. That is tips and clues which will help the child remain focussed on the task at hand, thereby creating and maintaining a happy, balanced learner who experiences success (Kewley, 2011:45).

Pfiffer (2011:157) states that teachers usually are the first to realise there is a problem at school since it's more obvious compared with the rest of the class whereas the parents at home also begin to realise there is a problem. A professional should be consulted. A referral to the Education Department, specifically the Educational Psychologist and perhaps a counsellor, is necessary. The teacher must record the behaviour regarding both the classroom and playground with the purpose of making a holistic, non- biased comparison. Also included could be the social worker with the purpose of determining whether there are mitigating home circumstances. Firstly, the professional must collect relevant information to determine the reasons for the child's behaviour. Both home circumstances and the school environment must be investigated.

A physician may also be consulted to eliminate possible comorbid behaviour. Secondly, information regarding the ongoing behaviour must be gathered so as to compare with the symptoms and diagnostic criteria of Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM 5. Thirdly, the class teacher and relevant professionals at school should be consulted. Their knowledge of the child as well as their ability to compare the child with other children of the same chronological age is extremely valuable. They may use observation to complete standardized evaluation forms such as Connor's Forms. Fourthly, an interview with the child's parents, class teacher and other personally involved adults is conducted. Finally, a profile of the child is drawn up having taken into account all existing circumstances. Upon these conditions, a fair diagnosis may be made (Kewley, 2011:39-44).

The earliest literature referring to inattentive behaviour of Attention Deficit-Hyperactivity Disorder was recorded by a physician named Alexander Crichton in 1798. He published a book entitled *An Inquiry into the Nature and Origin of Mental Derangements*, referring to Attention Deficit-Hyperactivity Disorder as "mental

restlessness". The majority of early psychiatric literature on Attention Deficit-Hyperactivity Disorder was largely credited to Sir George Still, a paediatrician and first professor of childhood diseases at King's College Hospital, London in 1902 (Fitzgerald, Bellgrove & Gill, 2007:4-5).

The terminology itself has undergone many transformations such as "minimal brain damage", "minimum brain dysfunction", "learning/behavioural disabilities and "hyperactivity". In the DSM-II it was "Hyperkinetic-Reaction of Childhood". In the DSM-III the term ADD – Attention Deficit Disorder –with or without "hyperactivity". The DSM-III-R refers to Attention Deficit-Hyperactivity Disorder. Stimulants to treat it were first documented in 1937. The DSM-IV comprises a combined type which includes inattentive and hyperactive- impulsive behaviour (DSM IV, 1994, referred to in Barkley, 2003:78; Fitzgerald, et al. 2007:14-16; Wicks-Nelson & Israel, 2006:246).

According to the World Health Organization and classification of Diseases, the International Classification of Diseases: ICD-10 definition of hyperkinetic disorder emphasises the existence of at least six inattentive, three hyperactive and one impulsive symptom which must be observed in both the home and school environments. This does require a direct observation of the behaviour. It also requires anxiety disorders, mood disorders, pervasive developmental disorders or schizophrenia to pre-empt a diagnosis of hyperkinetic disorder. (Fitzgerald, et al. 2007:16).

2.3.3 BIOLOGICAL FACTORS

Stahl and Mignon (2009:3) state that there are four different brain regions: orbital frontal cortex, dorsolateral prefrontal cortex, supplementary motor area and the anterior cingulate cortex which are affected by Attention Deficit-Hyperactivity Disorder. This results in a deficit upon executive functioning and motor control. Synaptogenesis in the prefrontal cortex may be the cause for altered connections that could prime the brain for Attention Deficit-Hyperactivity Disorder (Stahl & Mignon, 2009:38)

Pfiffner (2011:16) refers to problems within the brain systems concerning executive functions which affect ADHD through impairing skills such as planning, prioritization,

organization, behaviour control, mood, motivation, time management and working memory. This affects the classroom, playground behaviour as well as the normal development of independent skills.

2.3.3.1 Diagnostic Criteria for Attention Deficit-Hyperactivity Disorder

Fitzgerald, et al. (2007:17); Kutcher, Aman, Brooks, Buitelaar, van Daalen, Fegert, Findling, Fisman, Greenhill, Huss, Kusumakar, Pine, Taylor, E and Tyno, (2004:12-13) discuss the two major psychiatric classifications used worldwide in diagnosing Attention Deficit-Hyperactivity Disorder. They are firstly from the American Psychiatric Association, as proposed in 1994, being the DSM IV (used mainly in U.S.A.), and secondly from the World Health Organization, proposed in 1992, being the ICD- 10, Hyperkinetic Disorder (used mainly in Europe). Attention Deficit-Hyperactivity Disorder symptoms are divided into three groups: symptoms of inattention, symptoms of hyperactivity /impulsivity and a combined type.

2.3.3.2 Diagnostic and Statistical Manual of Mental Disorders

Initially according to the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV), the three main symptomatic clusters defining Attention Deficit-Hyperactivity Disorder are:

1. Attention Deficit-Hyperactivity Disorder- hyperactive- impulsive type behaviour – (fidgety, restless, impulsive, impatient)
2. Attention Deficit-Hyperactivity Disorder- inattentive type behaviour-(dreamy, non-listening, easily distracted, inattentive, subtle learning problems)
3. Attention Deficit-Hyperactivity Disorder- combined type- including inattentive and hyperactive- impulsive behaviour (DSM IV, 1994, mentioned in Barkley (2003:78; Fitzgerald, et al. (2007:16); Wicks-Nelson & Israel, (2006:246); Johnson (2012: 20-24).

Originally the DSM IV required symptoms of hyperactivity, impulsivity or inattention to be observed in two or more settings. However, it does not require direct observation of the symptoms by the clinician. DSM IV takes into account comorbid mood, anxiety and psychotic disorders on the condition that these symptoms are not better

accounted for or that they occur exclusively during observation, (Fitzgerald, et al. 2007:16; Green & Chee, 1997:236; Green & Chee, 2011; Sigelman & Rider, 2006).

More recently the DSM -5 has made changes which now include the criteria to be applicable throughout the individual's lifespan. The onset of the criteria has changed to be evident from prior seven years of age to now being prior twelve years of age whereas the adult now displaying ADHD requires only five criteria of which autism is presently included. O'Regan (2014:10), Barkley (2015:74) refers to the DSM V stating that ADHD is classified as a behaviour disorder which influences children and adults. The DSM V also classifies ADHD as a single disorder, not as previously consisting of three separate types. Qualifier symptoms are used to help clinicians diagnose ADHD.

“The behavioural symptoms used for diagnosis are not only substantiated in parent and teacher reports of these symptoms of children but are further confirmed by direct observational methods that demonstrate them to be excessive in people diagnosed with the disorder.” (Barkley, 2015:74).

The diagnosis of ADHD should be based on the history of ADHD symptoms, which are to persist for 6 months or more, usually manifesting before 7 years of age. Some impairment from the symptoms must be maladaptive and inconsistent with developmental level in social, academic and occupational functioning. It should be evident in two or more areas such as the home and school. No fewer than six symptoms must be evident for classification (Schelleck & Meyer, 2012: 14; Fitzgerald, et al. 2007:15).

2.3.4 CAUSES OF ATTENTION DEFICIT-HYPERACTIVITY DISORDER

Scientists are not totally sure as to what causes Attention Deficit-Hyperactivity Disorder. Possible causes comprise genetics, environmental factors plus possibly brain injuries, nutrition and social environment (National Institute of Mental Health, 2012:3-4).

- Genetically children with Attention Deficit-Hyperactivity Disorder initially have a thinner brain tissue in the area related to attention. This develops to a normal thickness as the child grows older, often resulting in the severity of Attention Deficit-Hyperactivity Disorder lessening.

Environmental factors such as smoking, alcohol and a high level of lead may also influence its onset. Schelleck, et al. (2012:13) suggests dietary and nutritional deficiencies, biological factors, abnormal lighting, exposure to environmental toxins & psychological factors should all be considered environmental risk factors.

However, according to Pfiffer (2011:22), social environmental factors do not cause ADHD but it may influence the severity thereof. O'Regan (2014:9) supports this by stating that environmental factors such as poor parenting, stress in the family situation, divorce, excessive television or poor diets and eating habits don't cause ADHD but may contribute towards worsening the child's conditions.

- Brain injuries may result in behaviour similar to the symptoms of Attention Deficit-Hyperactivity Disorder, however only a small percentage of children with Attention Deficit-Hyperactivity Disorder have had a brain injury.
- Brain activity indicates that an individual with ADHD is unable to control their own reaction to sensory stimulation, often resulting in an over-reaction with detrimental consequences. Brain wave activity is often slower, affecting the ability to predict events or possibilities which may occur as a result of their actions (Walker, 2013:34-35).
- Sugar is definitely not a proven cause of Attention Deficit-Hyperactivity Disorder.
- Food additives possibly may result in a link between some food additives such as artificial colourants or preservatives resulting in an increase in activity.
- Poor nutrition places a child at a disadvantage, particularly with regard to the ability to concentrate for extended periods of time, as well being a cause of possible behaviour problems throughout the day (ADHASA, 2009:125-132; Kewley, 2011:45-47).

2.3.5 STIMULANTS AND MEDICATION

The most common type of medication prescribed for Attention Deficit-Hyperactivity Disorder is a stimulant. This stimulant has a calming effect on the child suffering with Attention Deficit-Hyperactivity Disorder. Non-stimulants medicines are also used.

Generally Attention Deficit-Hyperactivity Disorder medication helps to lessen hyperactivity, impulsivity, and improve the ability to focus on the required task. However, one tablet is not suitable for everyone. Stimulant medication is available in pills, capsules, liquid or a skin patch. Some are quick releasing and thus short acting, while others are long release and thus longer acting within the body. Problems associated with side effects include decreased appetite, sleep problems, and tics. (National Institute of Mental Health, 2012:8-9) while Walker (2013:54) also mentions possible heart problems, stomach ache and irritability. It should not be taken by children who suffer from anxiety, tension, agitation or Tourette syndrome (Walker, 2013:17).

Regarding medication for the treatment of ADHD there are many different arguments. If ADHD is considered to be caused through cultural or societal factors, then supposedly medication would not help. However, if ADHD is caused through a physical problem from the brain, then medication could be beneficial. Whether medication is over prescribed or over used is a highly contentious issue. There are most certainly cases where medication is correctly prescribed and managed accordingly, while there are also cases where the “ADHD problem” could be treated better through other methods such as behaviour modification (Walker, 2013:65).

According to the researchers observation stimulants are frequently used by pushy parents as a “clever pill” to make a slow child achieve better results than otherwise. Stimulants can sometimes be referred to as “mother’s little helper”, given for the benefit of the parent and or the teacher, not the child. Approximately 70%- 90% of those with a major degree of Attention Deficit-Hyperactivity Disorder will respond to stimulant medication (Kern, et al. 2015:3043-3045), Pughe-Parry, 2008:28). If a trial of medication has failed, it is advisable to check whether the correct dosage was administered at the correct time. If it was given correctly, try another form of medication. The medication dosage should be “fine- tuned” to allow a normal brain function level but should never sedate the child (Kewley, 2011:52-54). In the past, the stimulants were only considered once behavioural, educational as well as family intervention had failed, whereas now medication is begun beforehand. The reason is apparently that the programmes or interventions are far more successful this way.

Henningsfield (2013:52-55) mentions non stimulants such as antidepressants as a possible alternative to such stimulants as Ritalin, however, it is a concern that this could cause an increase in suicide rates for young users. Strattera, an atomoxetine has been previously used to replace Ritalin but unfortunately its use may lead to liver disease. A transdermal patch used by children between the ages of six and twelve is also another option. Psychosocial treatments such as psychotherapy, counselling & behaviour modification may help with the emotional well-being of the child. Alternative therapies such as vitamins, meditation, special diets and exercise may also be beneficial.

2.3.6 INCLUSIVE EDUCATION IN RELATION TO ADHD

“Inclusive schools provide an effective education to the majority of children and improve the efficiency and cost-effectiveness of the entire nation” – UNESCO’s Salamanca Statement, 1994. Full service or Inclusive schools comprise mainstream education which must deliver quality education to every learner irrespective of the child’s abilities. *“Inclusion is a process rather than an event”* (Department of Education, 2010:5-7).

The Department of Education (2005) refers to inclusion as an attitude change. This implies a shift in one’s perception of attitude regarding a specific disability. Barriers to learning can be classified as any factors that impact on learning. These barriers may be either intrinsic from within the children themselves, such as genetic, language, health, intellectual and learning disorders. It may also be from extrinsic factors such as socio-economic, environmental, inflexible curriculum, poor parental involvement and example as well as negative community surrounds. ADHD can be classified as an intrinsic barrier since it is influenced by neurological aspects such as genetics and biological factors. Language and communication, sensory impairments and learning difficulties all play a role (Amod, et al. 2013).

According to the Special Needs Education: Education White Paper 6 (2001:16) Inclusive Education acknowledges that all children can learn, it is against any forms of discrimination. Inclusion acknowledges and respects differences in all children whether due to age, gender, ethnicity, language, class, and disability or HIV status. In addition, the National Education Policy Act 27 of 1996, A – 10, the rights and wishes

of children with special education needs must be taken into account at the admission to a mainstream school. Children diagnosed with barriers to learning, such as ADHD are to be catered for together with other children in a mainstream school. Practically to help overcome the differences experienced, may take various forms such as individual learning support within the school environment in the class, IEP, more time needed, less workload.

The Education Department and the teachers at the schools have a responsibility to accommodate diverse learners in their classrooms as well as to educate the other children in the school to accept and support everyone regardless of their circumstances as equal. This is sometimes a challenge to teachers when they do not know how to handle the learners, specifically those who are diagnosed with ADHD. This approach regarding the addressing of Barriers to Learning and exclusion requires a learner centered approach to both learning and the actual teaching (Department of Education: White Paper 6, 2001:16-19).

According to the National Protocol for Assessment all assessments must be appropriate to the child's age and developmental level. The assessments should include a variety of different skills allowing everyone to be able to experience a level of success and accomplishment. (Department of Education: National Protocol for Assessment, 2011:3). The Department of Education's document of Policy on Screening, Identification, Assessment and Support refers to barriers to learning and development when a child faces challenges in the actual learning process which arise either in the school and its environment, the classroom or the community, as well as their health and any disability they may have. Specific to this study is the Neurological and neurodevelopmental impairments, especially that of ADHD. (Department of Education: Policy on Screening, Identification, Assessment and Support, 2014:12, 18).

Rabiner (2010:1) states that medication is not always the answer to controlling Attention Deficit-Hyperactivity Disorder. Medication does most certainly help the majority of children, however, as many as 20% actually receive no direct positive benefit at all. Some children have drastic side effects which could prevent medication being administered over a long period. Others who benefit from medication still have difficulties with Attention Deficit-Hyperactivity Disorder symptoms or associated

problems that still need to be addressed. Some children do not require medication since they can benefit without it (usually mild cases). There is also the child who refuses to take the medication for whatever reason. Some children are definitely affected by the medicine, particularly in the first couple of days which may result in a loss of appetite, sleeplessness and to some extent even mood changes. They often feel “out of it”, also feel embarrassed as well as not in control.

Another factor is that many other disorders and conditions can be mistaken for Attention Deficit-Hyperactivity Disorder, as also can many environmental conditions. When environmental conditions appear similar to Attention Deficit-Hyperactivity Disorder, it is termed phenocopy, a term originally used by R. Goldschmidt in 1935. In phenocopy environmental conditions mimic or duplicate the phenotype produced by the specific gene (Peirce, Collins, & Levitt, 2008:20). This is where the co morbidity factors occur. This implies that there is a presence of a disorder or disease with another disorder or disease. The combined subtype is the most persistent form of the disorder as well as remaining the most consistent, with the least changes over time (Peirce, Collins, & Levitt, 2008:20).

Primarily hyperactive- impulsive type is often not a stable diagnosis. It is usually diagnosed early in childhood and either goes away with age or it leads to a combined subtype (Peirce, et al. 2008:21). Primarily inattentive type may be a problem of “a deficit in the working memory, executive function influencing the selective function of attention” and not that of inattention or inhibition of behaviour since it consists of a combined and hyperactive type (Peirce, et al. 2008:22). Attention Deficit-Hyperactivity Disorder is often comorbid with other disorders such as oppositional defiance disorder, depression and learning disorders (Reid & Johnson, 2012:25).

2.3.7 ADHD CONTROVERSIES

Attention Deficit-Hyperactivity Disorder has been and still is a highly contentious topic. An article in the Vancouver Sun, (March 10, 2010) states that Attention Deficit-Hyperactivity Disorder has always been a controversial diagnosis mainly because no objective test for the correct diagnosis exists. The diagnosis is usually based on the parents’ and teachers’ assessment of a child’s expected behaviour at a certain age i.e. age- appropriate behaviour. Children are often grouped in grades, but are not the

same age thus there is often a discrepancy regarding maturity and behaviour within the same grade or even the same class. One can't categorize a child's behaviour on a medical basis according to how we feel they should behave. Often the children most at risk of a misdiagnosis are the least mature or youngest children of the class. Misdiagnoses can lead to stigmatization as well as incorrect treatment by drugs being administered, which can affect the child's sleep, appetite and growth, and cardiovascular problems. It is vitally important that physicians take into account all role players, consisting of parents, teachers, as well as whether the child is age versus grade appropriate.

Reid and Johnson (2012:2) comment on whether ADHD is a real disorder. Factors against its validity are firstly that there's no medical test to diagnose it, no test to either prove or disprove its existence. Secondly, ADHD is a very subjective and emotional issue, being defined by a checklist of behaviours. Often the individuals determining the outcome are the parents and teachers. This in itself can lead to its not being an objective decision. Thirdly it is considered possible that almost everyone, sometime in their lives, could show signs of ADHD. ADHD is often displayed as "by-product of the stress of modern life". Another factor which leads to the misconception of ADHD is that there is considerable inconsistency regarding their behaviour or commitment to work.

Walker (2013:57-61) suggests that although generally the reality of ADHD is accepted, there is still not a consensus about it. A point of contention is that of its being as widespread as reported. Some medical professionals state that ADHD is a "catch all" grouping for symptoms which are unable to be otherwise grouped together.

Amod, et al. (2013) suggests that ADHD is influenced by myths. According to the study it was stated that some teachers felt that ADHD was a result of:

- Food additives
- Biological abnormalities
- Poor parenting skills

These incorrect perceptions of ADHD's causes and symptoms imply that an incorrect diagnosis can occur. Kewley (2011:45) states that there is definitely no supporting evidence that poor parenting causes ADHD. However, inadequate parenting skills may

lead to a relationship filled with conflict and stress, even depression which might worsen the condition of ADHD.

2.3.8 ASSESSMENTS FOR ADHD

2.3.8.1 Procedures

Once it has been established that a child might have ADHD then the parent or teacher can refer the case to the child's general practitioner, who can refer to a specialist. The parents can give an idea of what the child is like at home. The teachers supply information from a school's perspective which is vital for the completion of the diagnosis. Usually a rating scale will need to be completed by the class teacher of the child concerned. Even previous years' teachers as well as teachers of non- academic subjects e.g. physical education, sport, music and computers should be consulted. It is important to have an interaction between individuals so as to get a perspective of how everyone perceives the child. This could include environmental factors such as a teacher's teaching styles, classroom environment, parents & socio economic circumstances. A multi method approach towards the diagnosis of ADHD is also recommended since it includes multiple sources of information from all who are involved with the child. This includes the parents, teachers & various professionals. Information can be obtained via interviews and assessments, rating scales and observations (Kewley, 2011:38).

2.3.8.2 Types of Assessments

The family Interview can be used to gather vital information pertaining to the child's history. Factors such as biological developmental milestones, pregnancy history, speech and motor developmental stages, social and emotional history, illness and general family history can be obtained from the parents. Child Interview which involves, an interview with the child, perhaps through play therapy or drawings. Medical Examination includes a medical doctor, if necessary a specialist – Paediatrician & or a Neurologist. The main purpose is to exclude any co-morbid factors. Educational Psychological Assessment, it allows an observation of the child's concentration, impulsiveness, distractibility, hyper- activity and sociable skills. A cognitive assessment is important since this can establish whether the child's

academic achievements and displayed behaviour are related. Rating Scales such as Teacher Behaviour Evaluation Form such as Achenbach Child Behaviour Checklist- (1981), the Home Situations and School Situations Questionnaires – (Barkley, 1981), ADDES -2 (McCarney, 1995) as well as the Connors' Parents and Teachers Rating Scales (1997). The Connors enables the parents, teachers & the child, if old enough, to rate the behaviour, moods, social skills and concentration, distractibility, hyper-active or even totally withdrawn (Reid & Johnson, 2012:41).

O'Regan (2014:13) suggests that Behaviour Rating Scales form a vital role in diagnosing children with ADHD but they must be used in conjunction with a multi-modal assessment since ADHD does not occur in isolation. It must be categorically stated that there are no objective measures for diagnosing ADHD. There is definitely no single assessment that can be used in isolation to diagnose ADHD. The teachers form an integral role in the assessment process as well as imparting valuable supporting evidence (Reid & Johnson, 2012:51). Reports from other Professionals, such as Occupational Therapists, Speech Therapists etc. are important (Kewley, 2011:39-44).

2.3.9 ATTENTION DEFICIT HYPERACTIVITY DISORDER IN DEVELOPED COUNTRIES

ADHD misdiagnosis is a universal problem. Barkley (2015:74) suggests the prevalence rates of ADHD in North America are at 6%, Europe (5%), South America (12%), Asia (4%), Middle East (3%) and Africa (8%). In the United Kingdom it is noted as important for the professionals to recognise that symptoms of inattentiveness and impulsiveness occur over a wide range of children's problems. Nigg (2006:23) comments on the possibility of over treatment being due to a confluence of societal, economic, and/or policy factors unrelated to disease. Factors such as the popular media attention to Attention Deficit-Hyperactivity Disorder may cause the excessive need for referrals and diagnosis by parents. Increased expectations of children, due to competitive educational demands in both school and society also may result in an over diagnosis. Other possible influencing factors include financial burdens on the family, health care institutions unable to provide services, systems that discourage thorough assessments, as well as costly behavioural or psychological treatments.

Recently the easing of the taboo against pharmaceutical companies may also contribute towards an over diagnosis of ADHD (Biederman, 2005:1215; Searight & McClaren, 1998, referred to in Nigg, 2006:23).

These are important societal and policy issues that indicate a lack of appropriate support services for both the child and the family. The determination of specific diagnostic or causal mechanisms of children who have Attention Deficit-Hyperactivity Disorder would help to clarify the extent of the above concerns. What has become obvious is that medication rates have increased. Recognising that medicalization reflects multiple dynamics in society affecting both health care and educational services, more available resources may help professionals to prevent incorrect diagnosis and thus lessen incorrect treatment.

Fitzgerald, et al. (2007:13) states that despite the high prevalence of Attention Deficit-Hyperactivity Disorder, it is under diagnosed and under-treated, while its validity as a diagnostic entity is often challenged. The actual diagnosis of Attention Deficit-Hyperactivity Disorder must take into account specific symptoms, as well as several factors such as (1) information about the child's functioning in pertinent life areas, (2) a clear indication of impaired functioning in social or academic situations, and (3) the ruling out of other influences for the child's symptoms.

According to Amod, et al. (2013) a study conducted in the USA indicated that teachers were able to identify ADHD symptoms, specifically that of inattention and hyperactivity but were confused when children displayed characteristics of Oppositional Defiant Disorder. These two different behaviours were often confused by the teachers. This often resulted in an over diagnosis of the prevalence of ADHD.

An Australian study showed suggested that teachers often give parents and professionals incorrect advice regarding the accuracy of the diagnosis of ADHD. According to a study conducted in Germany, it is found that ADHD is over-diagnosed and that children are frequently misdiagnosed by teachers and therapists alike. Evidence reveals that child psychologists are increasingly basing their diagnoses on heuristics and trial and error techniques, tending to drift away from remaining true to the orthodox diagnostic criteria comprising the DSM IV and the ICD- 10 (Bruchmuller, 2012:128 - 138).

2.3.10 ATTENTION DEFICIT HYPERACTIVITY DISORDER IN DEVELOPING COUNTRIES IN AFRICA

In Africa, it has been found that generally very little is known about the prevalence of ADHD. A particular stumbling block is the problem of mother tongue interpretation and cultural backgrounds as well as how the questionnaire that was set for the children is conceptualised. However, it could be as common in Africa as elsewhere. Baasher & Ibrahim (in Meyer, Eilertsen, Sunder, Tshifularo & Sagvolden, 2006:64), conducted a study in a village near Khartoum, Sudan, found that 12% of the children chosen suffered from ADHD.

In South Africa, according to the Policy of Inclusive Education, it is the Educator's responsibility to support and teach all children irrespective of their own specific needs. If one looks at the statistics of children with varying levels of ADHD, it can be assumed that most teachers will have a child in their class having ADHD. This implies that a teacher must have an understanding of ADHD as well as the empathy to fulfil their responsibility towards the child, not forsaking or neglecting any of the other children. Regarding Inclusivity and Barriers to learning in the Foundation Phase the RNCS has an inclusive approach to teaching, learning and assessments. The learning programmes must accommodate any child who has a barrier to learning. The teachers must become fully knowledgeable regarding the factors of social, emotional and physical needs of the children in their class (Department of Education: RNCS, 2002). Teacher's experience in rating of ADHD was invaluable, especially when making use of Connors rating scales (Connors, 1998) as well as the Disruptive Behaviour Disorders (DBDs) rating scale. Inclusive Education in South Africa implies diversity of children each having different needs which the class teacher is expected to meet. These needs comprise academic differences, varying emotional and social differences. The teachers are thus an integral part of the gathering information regarding the diagnosis as well as the referral process. According to the ADHD Support Group the prevalence of ADHD in South Africa is approximately 10%. This correlates with that suggested in the United States and Europe.

According to the Attention Deficit and Hyperactivity Support Group of Southern Africa (ADHASA) 2009, the reality of ADHD in South Africa is detrimentally influenced by

large classes, major financial discrepancies, plus the policy of inclusion. This often results in a typical classroom having diverse needs hence a teacher needs to have a sound knowledge of ADHD. In South Africa a recent study conducted by Kern, et al. (2015) suggests the prevalence of the diagnosis of ADHD as high as 3-10%. The research implies that the symptoms are recognised at an early stage and hence class teachers are able to identify and refer the children according to their behaviour. The researchers indicate that the teachers don't fully understand ADHD, specifically the recognition and diagnosis of ADHD, often resulting in an over-diagnosis which in turn affects the prevalence rate as well as unnecessary medication.

Amod, et al. (2013) conducted a study where it was determined that the teachers are not sufficiently trained regarding ADHD. It also appears that they don't fully understand the influence of comorbid factors, hence often confuse the identification of ADHD. According to the study, it was also stated that some of the teachers felt that ADHD is influenced by many myths or misconceptions.

Perold, et al. (2010) and Topkin (2015) concur on the findings that teachers had an average knowledge of ADHD but lacked sufficient information regarding the symptoms, diagnosis and treatment of ADHD. The researchers agreed that the teachers were able to provide a positive environment thereby encouraging the ADHD child to reach its potential both emotionally, socially and academically.

However, in South Africa the diagnosis of ADHD is compounded by socio-economic and political circumstances. Often the child has very little parental support, being looked after by a grandparent or other family. Financial constraints and a possibility of illiterate parents lead to worsen the situation. This basically implies the importance of teacher involvement (Meyer, Eilertsen, Sunder, and Tshifularo & Sagvolden, 2004)

2.3.11 CONCLUSION

As the literature review suggests, ADHD generally is considered the most commonly diagnosed child behaviour disorder. The actual prevalence of children of school age diagnosed is between 3 and 7%. The diagnosis of ADHD is sometimes influenced by gender and non-adherence to the expected "norms of behaviour" (Schelleck & Meyer, 2012:2). Boys are diagnosed three times more frequently than girls. Evidence alludes

to its being genetic; hence if a parent has ADHD, then a high possibility (30-50%) exists that their child will have ADHD (Kewley, 2011:13).

The prevalence of the diagnosis is dependent upon many factors, especially the problem of deciding what is considered normal as opposed to unacceptable deviant behaviour Barkley (2015:74). Another major contributing factor is the comorbid conditions which complicate the diagnosis of ADHD, since these conditions mimic ADHD so successfully (Reid & Johnson, 2012:25). Lack of general knowledge and understanding of ADHD by parents, teachers and to some extent the professionals also compounds the issue (Kern, et al. 2015:3043). There is also controversy of an over-diagnosis resulting in too many children being misdiagnosed, hence the administration of unnecessary medication, specifically that of stimulants (Amod, et al. 2013).

Originally the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV) distinguished three main types: firstly ADHD - hyperactive- impulsive type behaviour, ADHD - inattentive type behaviour and ADHD - combined type- including inattentive and hyperactive- impulsive behaviour (Reid & Johnson, 2012:20). More recent research, Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM V) considers ADHD as a single behaviour disorder which affects children and adults (Barkley, 2015:74).

The research implies that generally since the ADHD symptoms are evident at an early stage of schooling, teachers are usually the first to suspect ADHD in a child. This often results in the teachers identifying and referring the children to the parents and specialists. The teachers usually observe the child's behaviour and complete Connors Forms to help the specialists in their diagnosis (Kern, et al. 2015:3043).

It must be mentioned that there is no objective means to diagnose ADHD. There is definitely no single assessment capable of assessing a child. It does not occur in isolation and thus there needs to be a multi-model approach where the parents, teachers and specialists all play a pivotal role in the process of the diagnosis of ADHD (Reid & Johnson, 2012:51). An assessment which is currently used and accepted by psychologists, parents and the teachers is the Connor's Parents and Teachers Rating Scales since it involves a multi-model approach.

The researcher feels that ADHD is far too a complex disorder to be diagnosed by one single test or an individual. Its complexity demands a group of specialists to work as a team to correctly diagnose and decide on the child's future. The team should comprise the parents, class teacher, school and specialists to enable a holistic outcome. The next chapter discusses the Research Methodology.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The purpose of this chapter is to describe the methodology of the study, qualitative approach, research design and sampling of the participants. Further information regarding the data collection process, data analysis and interpretation as well as trustworthiness is explained in detail. The aim was to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape by uncovering which criteria were used by their teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a child for a referral to a parent, therapist or other professional.

The focus was to determine which criteria were used by the teachers to suggest a possible diagnosis of Attention Deficit-Hyperactivity in a child.

In order to further the topic meaningfully, it was necessary to address the following questions:

1. What was the teacher's understanding of ADHD?
2. What other factors influence the teacher's suspicion that the child may have ADHD?

3.2 QUALITATIVE APPROACH

The aim of a qualitative approach involves a description which is able to divulge the nature of specific situations, processes, relationships and of people. In this instance it is concerned with the prevalence of children having ADHD. Interpretation allows the researcher to obtain pertinent information about a phenomenon. This refers to the problem in Education regarding the prevalence and misdiagnosis of ADHD. Verification enables the researcher to validate specific assumptions regarding the research question. This refers to whether there is an over or under diagnosis of ADHD.

This study is a qualitative approach because it allowed the researcher to determine the participants' understanding of, opinion and feelings of ADHD. The participants were mainly the educators. An interview schedule was used and the researcher taped

and transcribed the interviews. Secondly an observation of the selected children who had been identified as having ADHD was completed.

This approach was used because participants are not objects, but human beings who can speak and think for themselves and can define things from their own perspective. It enabled the researcher to conduct the research on the teachers' and children's natural surroundings, being the school environment. A qualitative study is an investigative process whereby the researcher gradually makes sense of social phenomena through contrasting, comparing, replicating, cataloguing and classifying the object under study (Creswell, 2008:38). Babbie and Mouton (2006:274-278) state that a qualitative approach is concerned with the examining and interpretation of observations. In this case the researcher was able to examine various factors that contribute to the prevalence of young learners who have ADHD at schools.

The researcher intended to capture the insider's perspective in specific settings; therefore the teachers' perspectives were gathered at the school where they are employed. In a qualitative study the researcher is the main data collector, therefore the researcher went to the school and collected data. The researcher asked questions of the participants as well as being involved in the observation of the selected children previously identified as having ADHD. Furthermore, prolonged meaningful interaction with the participants helped the researcher to understand the phenomena under investigation, which is the prevalence of learners as having ADHD.

The researcher used a qualitative approach concentrating firstly on an interview with the teachers and secondly an observation of seven children previously diagnosed with ADHD. Initially a verbal interview with the teachers answering pre-determined questions took place; secondly the behaviour of the selected children was observed specifically concentrating on the typical ADHD characteristics displayed by a child with ADHD. This observation occurred in the classroom and during play time so as to allow for differentiation from academic to typical break activities. This necessitated a completion of a Connors Form by both the selected teachers and the researcher. This was used to help determine the characteristics the teachers chose regarding the identification of the children's behavioural traits. This also served to validate the choice of the teachers chosen characteristics of the selected children compared with the researcher's personal choice. It can also be used in determining the severity of the

specific characteristics. There appears to be an inconsistency in the severity with regard to how severe the behaviour is classified.

3.3 RESEARCH DESIGN

3.3.1 Phenomenology

In this study the researcher chose phenomenological design since it attempts to understand people's, specifically that of the teacher's, perceptions of a particular situation being that of the prevalence of and the possibility of a misdiagnosis of ADHD.

Phenomenology studies the experiences from the participant's viewpoint taking advantage of interpretations, meanings and an individual's opinions regarding the teacher's criteria, specifically those referring to the characteristics the teachers choose regarding the possible identification of the children's behavioural traits which relates to the diagnosis of ADHD. Data collection involved interviews with the teachers and observation of the selected children who were professionally classified as being ADHD (Creswell, 2014:14; Leedy & Ormrod, 2014:102,147,574).

The researcher was interested in determining the teacher's views, opinions and responses regarding what they consider important characteristics in determining ADHD. The researcher also intended to make use of the Connors Form, designed by C.Keith Connors, which has specific characteristics pertinent to the diagnosis for ADHD, to compare which characteristics are chosen by the teachers and thus further clarify which characteristics are considered important by the teachers regarding determining ADHD.

3.4 POPULATION AND SAMPLING

The population generally refers to the individuals who have similar characteristics whereas sampling is concerned with specific chosen individuals. In this study the population consisted of the teachers in general while the sampling was purposefully selected comprising Foundation Phase Teachers in the Western Cape. Purposive sampling was chosen so as to select participants who fitted the necessary criteria to illustrate the specific characteristics the researcher was interested in studying (Leedy & Ormrod, 2014:221).

The researcher chose only participants who could give the necessary information regarding ADHD, who were prepared to be a part of the research and thereby contribute positively to the research. This selection helped the researcher understand the problem and research question more thoroughly (Creswell, 2014:189).

3.4.1. Sampling

The sample comprised firstly a group of ten Foundation Phase class teachers of various ages ranging from 25 to 62 years of age. Generally there exists a range between 5 years to 35 years regarding their teaching experience. These participants were chosen because they have all had experience with identifying children who eventually were classified as having ADHD. Secondly, a group of seven Foundation Phase children previously diagnosed as having ADHD was selected because the participant teachers know of their diagnosis as well as being personally part of the child's Individual Education Programme thereby allowing them access to the children's records. This allows them insight into the child's academic abilities and specifically that of their behaviour both before and since medication has been administered. All the participants are presently at the same institution.

Purposive sampling was used with a specific purpose in mind. The choice of sampling relates specifically to the characteristics which best fit the desirable participants. In this case the teachers who work at a Foundation Phase School were chosen.

To ascertain this relevant sample the researcher used the children's student records obtained from the school's Institutional Based Support Team meetings as well as reports from the relevant specialists who had assessed the children. These comprise medical reports from the doctor, psychologist or psychiatrist. These records include the child's Cumulative Card in which personal details and intervention therapies from service providers such as Speech and Occupational Therapists were recorded. The Institutional Based Support Team (ILST) minutes were scrutinised to obtain vital information to help form a comparison between the teachers rating of the child's behaviour as opposed to the researcher's rating. The reason for this document analysis was that these children have been previously diagnosed as having Attention Deficit-Hyperactivity Disorder. A Table was designed to compare the various characteristics and criteria decided upon. Each of the children was allocated

pseudonyms of CH 1: - CH 7. The chosen children were originally referred via the Learning Support Team. This consists of a group of teachers comprising the Western Cape Education Department representative – learning support teacher, the school principal, remedial support, counsellor as well as any other trained teacher who has experience in learning support methods. Hence their personal information was known to the teachers as well as the fact that they were being continually monitored for both behaviour and academic achievement through the Individual Education Programme. Their parents were consulted and permission was requested to allow their child to be observed. All of the chosen children's parents were fully aware of and have signed consent forms for their child to participate in this study (Leedy & Ormrod, 2014:221). The information that was gathered from the group proved to be vital in the data collection process since it enabled a better understanding and insight of all of the facts.

3.4.2 Pilot study

The pilot study with the original ten teachers produced sufficient, but varied responses. However, it was evident that there were too many possible questions. The question that caused a conflict of emotions was withdrawn and the researcher decided on four questions. These four rephrased questions were asked to five selected teachers who appeared to have a better understanding of the topic pertaining to ADHD.

ORIGINAL INTERVIEW QUESTIONS

1. What do you understand by the terminology of Inclusion, Barriers to Learning, Attention Deficit Hyperactivity Disorder (ADHD)?
2. What process or strategies do you follow to assess learners who are identified as having ADHD?
3. What causal factors do you consider should be taken into account when determining whether or not a child has ADHD?
4. What characteristics do you consider important with regard to the Connors Form when deciding whether a child has barriers to learning - specifically that of ADHD?
5. What is your opinion about how boys are misdiagnosed with ADHD?

REPHRASED INTERVIEW QUESTIONS

1. What do you understand by the terminology of Inclusion, Barriers to Learning, Attention Deficit Hyperactivity Disorder (ADHD)?
2. What causal factors do you consider should be taken into account when determining whether or not a child has ADHD?
3. What characteristics do you consider important with regard to the Connors Form when deciding whether a child has ADHD?
4. What is your opinion regarding stereotyping of the Gender differences & ADHD?

3.5 DATA COLLECTION

Many possible types of data collection sources may be considered, such as observations, interviews, documents and audio tapes. Use was made of interviews, observations and document analysis (Creswell, 2014:185; Leedy & Ormrod, 2014:221).

3.5.1 Interviews

Interviews yield useful information such as facts, individual's perspectives and feelings on the facts, standard of expected behaviour – acceptable for some but not acceptable for others. Open-ended or semi structured questions were used on the chosen teachers since it allowed for both closed and open questions (Leedy & Ormrod, 2014: 221).

Semi-structured interviews were used for the data collection process since it provided first- hand experiences from the selected Foundation Phase teachers. One- to-one interviews were conducted after working hours, at a previously decided and agreed upon time and place. This took place in a separate, private office where privacy was of utmost concern. The teacher was presented with the interview questions prior to the actual interview. The purpose was for them to have a chance to peruse and think through the possible answers as well as to help make them feel more comfortable knowing what to expect. The actual interview took approximately 30 to 45 minutes, whereas the total process including completion of the Connors Form did not exceed one hour. Data was audio-taped and later independently transcribed by the researcher. At a later stage, the taped and transcribed interview was presented to the

selected teachers so that they could check to see that they were happy with what was said, and comfortable to allow their comments to be recorded.

3.5.2 Observations

Observations are usually intentionally unstructured and free-flowing. The children's behaviours in and out of the classrooms and playground were observed (Leedy & Ormrod, 2014:221).

A non-participant observation was used in this study. Observation of teachers teaching a lesson to the learners who were diagnosed with ADHD was made and field notes were taken. Observations were included as a research technique of obtaining data since the researcher wished to gather data from natural settings, being the Foundation Phase classrooms as well as the children's playground area. This required a systematic noting and recording of events, behaviour and objects in a social setting of the chosen study. This study necessitates a non-participant observation wherein the researcher will be an observer but not interfering with the proceedings.

At a later stage seven previously identified children were observed in the class and outside at break. The selected teachers completed a Connors Form and this was compared to determine which of the children's characteristics were chosen by both the teacher and the researcher. Connor's Form was used as a control to help determine the validity of the teacher's choice of characteristics as well as determining the severity of the specific characteristics chosen by the teachers. The intention was to observe for criteria which the teachers use as a possible diagnosis of Attention Deficit-Hyperactivity Disorder, concentrating specifically on the traits of attention, impulsivity and hyperactivity.

3.5.3 Document analysis

Document Analysis provides valuable information about the topic being researched. Documents of the children who were identified by a specialist as having ADHD were scrutinised. The Connors Forms previously completed by the class teacher were compared with the Psychological reports and also with the researcher's opinion. A comparative grid was used as a means of comparison (Leedy & Ormrod, 2014:221).

3.6 DATA ANALYSIS AND INTERPRETATION

Qualitative data analysis occurs in the data collection process. Data collection was used in order to identify the units of meaning relating to the misdiagnosis of learners with ADHD. Audio-taped data were listened to several times to gather emerging categories and themes regarding the experiences of teachers in relation to the prevalence of learners with ADHD. The researcher read all the data, broke down large bodies of texts into smaller meaningful units in the form of sentences, phrases or individual words. The entire data were perused several times to get a sense of what they contained, in the process the researcher wrote in the margins for possible categories or interpretation. The researcher identified possible categories or themes and then classified each piece of information accordingly. It was assumed at this point it would be easy to get a sense of what the data meant. Finally the researcher integrated and summarized the data. The researcher assumed using interviews would enable him to generate an appropriate level of detail needed for addressing the research problem, which was to examine the prevalence of the misdiagnosis of ADHD in the Foundation Phase in the South Metro, Western Cape.

Documents of the children who were identified by a specialist as having ADHD were scrutinised. The Connors Forms previously completed by the class teacher were compared with the Psychological reports and also with the researcher's opinion. A comparative grid was used as a means of comparison. The aim was to help determine the characteristics the teachers choose regarding identification of the children's behavioural traits.

3.7 TRUSTWORTHINESS

Trustworthiness is achieved by checking the researcher's approach as being consistent with other researchers (Creswell, 2014: 201). Trustworthiness is of utmost importance in this study since in qualitative research the researcher is the data gatherer. Gaining the trust and support of research participants is critical. Trustworthiness of data is concerned with credibility, transferability, dependability, conformability and authenticity. Trustworthiness is established when the research findings accurately reflect the viewpoint of the researcher, participants or reader (Creswell, 2009:190).

3.7.1 Credibility

According to Holloway and Wheeler (2002) and Macnee and McCabe (2008), as mentioned by Anney (2014:276), credibility is having confidence in the “truth” of the findings. Credibility in qualitative research is concerned with a prolonged time of involvement with the participants. This entails using continual observation, use of different sources, varying methods, reflexivity, different field experiences and even different investigators. Interviews were conducted during which time a positive rapport, trust and a good empathy were established. The researcher interviewed the teachers gathering as much possible and pertinent information as possible. A healthy, friendly atmosphere and rapport was achieved. According to Schurink (2009) credibility in qualitative research is determined by the extent to which the data and the data analysis are acceptable and trustworthy.

3.7.2 Transferability

Transferability refers to the extent to which the research findings can be applied to similar settings or contexts (Guba & Lincoln, 1994:316). Anney (2014:277) states that transferability “indicates the degree to which qualitative research is able to be transferred to other contexts taking into account other respondents.” The aim was to use the vast experiences of the 10 selected teachers, years of teaching experience varied between 5 to 30 years, hopefully being able to transfer it to a broader teaching population within the Western Cape.

3.7.3 Dependability

Dependability is determined by the extent to which the findings are consistent and could be repeated if the same research was conducted with similar participants under similar conditions (Creswell, 2003:220; Schurink, 2009). Here the researcher used an interview of selected class teachers, observations of ADHD children and document analysis in an attempt to understand the misdiagnosis of ADHD by the teachers.

3.7.4 Conformability

Conformability implies the degree to which the research findings are completely free from any personal bias, motivation or interest i.e. total neutrality (Guba & Lincoln, 1994:318). Anney (2014:279); Schurink (2009) refers to the extent to which the

research can be “corroborated”. During the data collection process the researcher monitored the classroom situation, general class dynamics, specifically the children previously identified as having ADHD and as to how this appeared to affect the teacher who was to be the participant in the interviews.

3.7.5 Authenticity

Authenticity is regarded as a true reflection of people, events and places. It is seen as the ability to reflect the circumstances under research through the eyes of the participants. It enables a true reflection pertaining to the different viewpoints thereby creating a fair and adequate interpretation of the circumstances (Denzin & Lincoln, 2005:23). To establish authenticity, the researcher requested the participants to check whether the interview questions and observations were authentic. They were also requested to read through the transcripts and to change anything they felt was not a true reflection of their feelings or opinions. The purpose was to ensure that there was authenticity of the participants’ perceptions allowing for an accurate interpretation of their viewpoints (Denzin & Lincoln, 2005:155). The report will be professionally edited and a critical reader will be used to entail total trustworthiness.

3.8 REFLEXIVITY IN QUALITATIVE RESEARCH

Reflexivity implies that the researcher must reflect on his/her own personal bias, values and background since these may affect their final interpretations of the research undertaken. A researcher’s gender, race and culture may influence their decision making. In the process the researcher monitored the participants and the researcher’s own reactions to the information gathered. The researcher took into account his personal background, upbringing and experiences in comparison to that of the participants. (Creswell, 2014:186). This enabled the researcher to internalise and give a non- biased interpretation of the research.

3.9 ETHICS IN RESEARCH

The researcher adhered strictly to the following ethical guidelines:

- This required a letter to the Education Department to request permission to conduct the research at a specific government school.

- A written, signed consent from all participants was obtained beforehand and it was stated that there would be no remuneration to participate in the study.
- The researcher ensured to the best of his ability that the relevant research methods, accuracy of data gathering, processing of information and reporting was ethically obtained. Since this research was conducted on people, the well-being of the research participants was a top priority.
- Written permission for this to take place as well as an explanation as to how and why was obtained from the Education Department, teachers and parents.
- The anonymity of the participants was explained, a signature consenting to participate will be obtained prior to the interview, as well as them being able to withdraw if they feel it necessary.
- The audio tapes were locked away and kept fully confidential. No participant's names were recorded. At the end of the research, the tapes were destroyed.

3.10 CONCLUSION

This chapter described the research design and methodology. Qualitative research is conducted on people in a naturalistic setting, in this case the school environment, with the purpose of understanding the participant's experiences regarding the prevalence of Attention Deficit-Hyperactivity Disorder among Foundation Phase children in the South Metro in the Western Cape.

A phenomenological design was chosen because it makes use of interpretations, meanings and an individual's opinions regarding the teacher's criteria, specifically those referring to the characteristics the teachers choose regarding the possible identification of the children's behavioural traits which relates to the diagnosis of ADHD. The researcher believes that the outcomes should also be applicable to other teachers making similar referrals. It is hoped that these findings will benefit both the teachers and the children who are suspected of having Attention Deficit-Hyperactivity Disorder.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1 INTRODUCTION

The researcher used a qualitative approach, concentrating firstly on an interview with the teachers and secondly on observation of seven children previously diagnosed with ADHD.

The main research question: "Which criteria are used by the teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a Foundation Phased child?"

The objectives of research were as follows:

- To establish the teacher's understanding of ADHD.
- To find out what other factors influence the teacher's suspicion that the child may have ADHD.

Initially the teachers participated in a verbal interview consisting of questions, the responses to which were taped and transcribed. The aim was to determine the teachers' understanding and knowledge regarding ADHD. The teachers were at a later stage expected to complete a shortened Connor's Form which is used by the Metropole South District to help identify children with Attention Deficit-Hyperactivity Disorder. This was used to determine which criteria the teachers used to determine which characteristics are essential to suggest ADHD.

Secondly the Children who had been previously certified by a Psychologist as having ADHD were observed by the Teacher concerned and the researcher. Afterwards the Teacher completed the shortened Connors Form. Seven children aged 6, 7, 8 and 9, who were previously identified as having ADHD, were chosen from Grades 1, 2 & 3. A table was designed firstly to record the number of children officially certified by a Psychologist as having ADHD from 2010 to 2014. The purpose was to determine whether there was a pattern in either increasing or decreasing the number of children diagnosed.

The teacher interview together with the observation of the children's behaviour and subsequent completion of the Connors Form was used together as a comparison to help determine which criteria are used by their teachers to suggest possible Attention Deficit Disorder. Discussion of the findings is to be presented using themes which will be substantiated by recorded interviews from the teachers, observation of the selected ADHD children and document analysis of the children's files and Connor's forms.

4.2 DATA ANALYSIS METHOD

Qualitative data analysis occurs continually through the data collection process. Data analysis, organisation and interpretation were done to identify the units of meaning relating to the prevalence of the misdiagnosis of learners with ADHD. Audio-taped data were listened to on numerous occasions. At a later stage the interviews were transcribed verbatim. The researcher read and broke down the texts into meaningful units. The data was read many times to get an understanding of its contents. The themes were established and later each piece of information was classified. The researcher was able to get an understanding of what the data implied. Finally, the data was collated. The interviews enabled the researcher to obtain sufficient detail needed to address the research problem.

The teachers' and the children's profiles are discussed in the next paragraph.

4.3 PROFILES OF INTERVIEWED TEACHERS AND OBSERVED CHILDREN

The respondents were selected and interviewed since they each had previously or presently a learner who had been diagnosed as having ADHD. The respondents were initially asked general interview questions about their qualifications and years of experience. This was recorded as field notes which were later analysed and put into a Table Format. The respondents, teachers, were identified as numbers, 1 to 10, hence their anonymity was protected.

4.3.1: Profiles of Interviewed Teachers

The interviewed teachers are referred to as Respondents, R 1: – R 10: - Numerically designated 1 to 10. Post Level 1 refers to a general class teacher, Post Level 2 refers to a teacher who has been promoted to Head of Department, Post Level 3 refers to a

teacher who is appointed as a Deputy Principal and a Post Level 4 refers to a Principal of a school.

Table 1: Profiles of Interviewed Teachers

Respondent		Qualifications	General
1	Post Level 1 Senior	HDE Higher Diploma in Education. – 4 years	<ul style="list-style-type: none"> • 33 years' experience • Taught all grades in Foundation Phase • Learning Support Teacher
2	Post Level 2 HOD	Honours B.Ed. Learning Support in United Kingdom	<ul style="list-style-type: none"> • 16 years' experience • Taught & studied in London • Taught all grades in Foundation Phase
3	Post Level 1	College of Education Junior Primary – HDE- JP – 4 years	<ul style="list-style-type: none"> • 19 years' experience • Taught all Grades in Foundation Phase • Taught – Computers • Owned a Playschool
4	Principal Post Level 4	DEJP- Diploma in Education Junior Primary. ACE	<ul style="list-style-type: none"> • 33 years' experience • Taught all grades in Foundation Phase • Principal
5	Post Level 2	Masters in Social Work – Education Management & Leadership -Australia, Melbourne	<ul style="list-style-type: none"> • 15 years' experience as a Social worker – Itinerant
6	Post Level 3 Deputy Principal	Junior Primary - Teacher's Diploma - 3 years HDE	<ul style="list-style-type: none"> • 22 years' experience • Learning Support • Taught all grades in Foundation Phase

		ACE B.Ed. – Educational Management	
7	Post Level 1	B.Ed. – Foundation Phase - 4 years	<ul style="list-style-type: none"> • 4 Years' experience – Class Teacher, Physical Education, & Computer
8	Post Level 1	Junior Primary – HDE- JP – 4 years	<ul style="list-style-type: none"> • Principal Pre- Primary Nursery School • 10 years' experience • Taught all grades in Foundation Phase
9	Post Level 1	Junior Primary Teacher's Diploma 4 years. Physical Education	<ul style="list-style-type: none"> • 34 years' experience • Physical Education Lecturer
10	Post Level 1	Junior Primary Teacher's Diploma 3 years ACE	<ul style="list-style-type: none"> • 21 years' experience • Taught all grades in Foundation Phase

Profiles of Interviewed Teachers:

R 1: was a female, aged 58 at the time of the interview. She has taught in all the Primary School grades from 4-7. She is presently a lead Learning Support teacher who is employed by Department of Education. She is an Itinerant teacher who is based at two Primary Schools working at each one on consecutive days. Previously she was an H.O.D. She has taught for a total of 33 years of which 10 years have been in Learning Support. She is an author for Teacher Manuals and has published articles, manuals etc. She is presently part of the Learning Support Team.

R 2: was a female aged 45 at the time of the interview. She has taught grades 1-3 as well as an Adaptation class comprising learners with different abilities as well as different academic needs. She studied "Learning Support" overseas in the United Kingdom. She completed her B.Ed. Honours. She is presently an HOD at a Primary school consisting of Grades 1-7. She was part of the Learning Support Team. She has taught for 16 years of which 3 were at a school in London.

R 3: was a female aged 40 at the time of the interview. She has a total of 19 years of teaching experience. She is presently a computer teacher who is also in charge of the school's First Aid since she is a trained Paramedic. She owned a Play School for several years.

R 4: was a female aged 57 at the time of the interview. She is presently the Principal at a Pre-Preparatory School. She has completed 33 years of teaching of which 16 years have been as a Principal. She obtained her initial qualifications in a Diploma in Education Junior Primary. She studied further obtaining a Higher Diploma in Education majoring in Art. Later she furthered her studies completing an ACE majoring in Leadership and Management. She is presently part of the Learning Support Team.

R 5: was a female aged 53 at the time of the interview. She is the school Social Worker. She is an Itinerant teacher who is based at two nearby Primary Schools working at each one on consecutive days. She obtained her master's degree in Education Management & Leadership. She is part of the team that co-ordinates the Learning Support. She counsels the children as well as the parents who need guidance. She has been part of the Education field for the past 15 years.

R 6: was a female aged 49 at the time of the interview. She has completed a Higher Education Diploma and obtained her Ace in Education Leadership as well as a B. Ed in Education Management. She is a qualified Learning Support Teacher.

R 7: was a female aged 30 at the time of the interview. She has taught for 4 years. She is a competent Computer specialist. She is secretary on the Learning Support Team.

R 8: was a female aged 35 at the time of the interview. She has a total of 10 years of teaching experience. She has previously been a Principal at a Nursery School.

R 9: was a female aged 63 at the time of the interview. She completed a course in Speech and Drama. She has also been a lecturer in Physical Education at a College. She is presently a grade 3 teacher. She was on the Learning Support Team. She is also Grade Head for this year.

R 10: was a female aged 45 at the time of the interview. She is busy studying towards an ACE in Movement and Dance. She has taught all the Grades in the Foundation Phase being from Grade 1-3.

4.3.2 Profiles of Children

They were observed initially in the classroom and at a later stage observed at break. Their Cumulative files, consisting of personal information such as psychologist reports, Connor's Forms, behaviour reports being pre- and post- medication were later used for document analysis.

A table was designed to record the number of children that were officially certified by a Psychologist as having ADHD from 2010 to 2014. The purpose was to determine whether there was a pattern in either increasing or decreasing the number of children diagnosed as well as to distinguish whether there were a higher percentage of occurrences regarding a specific sex of the children who were diagnosed.

Table 2: Children that were officially certified by a Psychologist as having ADHD from 2010 to 2014

Year	Grade	Male	Female	Total per annum	Diagnosed %
2010	1	4	1		
	2	4	2		
	3	4		15	3,3%
2011	1	3	1		
	2	5			
	3	6	3	18	4,0%

2012	1	2			
	2	4	1		
	3	3	1	11	2,4%
2013	1	4			
	2	7	1		
	3	2	1	15	3,1%
2014	1	3	2		
	2	1	2		
	3	3		11	2,3%
		55	15	70	Boys – av. = 2,365%
	TOTAL	Boys	Girls	Total % of Boys & Girls Diagnosed– ADHD 3,010%	Girls – av. = 0,645%

Profiles of Observed Children:

The children chosen to be observed and a Connors form to be completed once observed, were identified as CH 1: - CH 7:

On the Connors Form a rating scale of 0 – 3 was used being: Key – 0 = not at all; 1 = slight; 2 = substantial; 3 = very much. The ratings of the class teacher as compared to the researcher focused on the child after being diagnosed as ADHD – i.e. - all the children are already on medication.

An observation record regarding the child's behaviour at school during class time, at breaks and extramural activities was designed by the ILST which was monitored on a daily basis by the class teacher and the researcher, and signed daily by the parent.

CH 1: was a Grade 1 male who was diagnosed as having ADHD in April 2014. His chronological age was 6:04 at the time of the initial diagnosis. His initial diagnosis was made based on all three criteria: inattention, impulsivity and hyperactivity. At this stage he receives 10mg of Ritalin per day at approximately 07:00 before leaving for school. According to his class teacher as well as the researcher he was rated for inattention, impulsivity and hyperactivity on a 3, very much. It actually has been suggested that the dosage be increased by a further 5mg to be administered at 12:30. The researcher agrees that this diagnosis is substantiated by fact, good record keeping in the form of an observation record regarding his behaviour at school during class time, at breaks and at extra murals.

CH 2: was a Grade 1 female diagnosed as having ADHD in May 2014. Her chronological age was 6:09 at the time of the initial diagnosis. The diagnosis was made based on all three criteria: inattention, impulsivity and hyperactivity. At this stage she receives 5mg of Ritalin per day at approximately 08:00 when she arrives at school. According to her class teacher she was rated for inattention, impulsivity and hyperactivity on a 3 – very much. The researcher rated her for inattention and hyperactivity as a 2, substantial, but did also rate her for impulsivity as a 3. The class teacher requested that she be re- evaluated with the possibility, if decided upon, the dosage being adapted according to the findings (possibly increased). At the case presentation of the ILST, at which both the teacher and the researcher were present, it was decided to try other strategies to help the situation before consulting the Psychologist. The researcher agreed with firstly the correct procedure of ILST being followed and secondly that other methods should be tried and implemented before “medication was to be increased”.

CH 3: was a Grade 2 male, diagnosed in June 2013. His chronological age was 7:00 at the time. At this stage he receives natural remedies, Biostrath and Omega 3- Equazem Eye Q. He was originally placed on Ritalin but according to his parents there was no significant improvement in his behaviour. Initially the main concern was the impulsivity and hyperactivity. His class teacher rated him as a 3, but the researcher rated him as a 2. There was also a difference in rating from his previous class teacher in Grade 1 far more severe hyperactivity and impulsiveness. The researcher experienced his parents as extremely supportive and realistic, accepting the

professional's advice. However, the parents felt Ritalin was detrimental and made the choice, with consultation, to change medication.

CH 4: was a Grade 2 female, diagnosed in January 2013. Her chronological age was 6:10 at the time. The diagnosis was based on all three criteria: extreme behaviour of inattention, impulsivity and hyperactivity. Initially in Grade 1, she received 10mg of Ritalin per day. In Grade 2 it was increased to 20mg. of which 10mg was administered by the parents at home before school and a "top up" was given at 12:30. Her behaviour has improved significantly with the change of teacher to the extent that there might be a drop in the dosage once the correct procedure is followed. According to her previous class teacher she was rated 3 and even perhaps "beyond". Initially her impulsiveness and hyperactivity were classified as extreme. Her present teacher has a far more positive scenario, rating her at 1 or perhaps 2. The researcher rated her at the same as the present class teacher. She has been presented to the ILST and recommended to consult with the same Psychologist. It was agreed to decrease the dosage to 10mg.

CH 5: was a Grade 3 male diagnosed in February 2013. His chronological age was 8:00 at the time. He initially received 5mg of Ritalin per day before school. It was later increased to 10mg. This was administered at home directly after breakfast. Recently the parents, at their own discretion, decided to lessen the dosage and eventually to take him off it entirely. There was a slight difference on the rating by the class teacher and the researcher. This unfortunately was influenced by the erratic administration by the parents of the medicine. The main criterion for his diagnosis was inattention.

CH 6: was a Grade 3 male diagnosed in June 2011. His chronological age was 6:09 at the time. He was initially diagnosed in Grade 1 where he was administered 10mg. in Grade 2 it was increased to 20mg. in Grade 3 it was set at 30mg per day. According to the parents he functioned extremely well on this dosage, having no side effects. There was a major discrepancy between the parents, class teacher and the researcher regarding the Connors rating. Both grade 1 and 2 class teachers gave him a 2-3 ('very much'), whereas the Grade 3 class teacher and the researcher both disagreed, stating a rating of 1 mainly because he was so heavily medicated.

CH 7: was a Grade 3 female diagnosed in September 2013. Her chronological age was 6:10 at the time. Her initial diagnosis was made based on all three criteria. She

was initially administered 10mg of Ritalin in her first year of Grade 2. In her second year of Grade 2, her parents changed the medication to Concerta. In Grade 3 she is once again started taking 10mg of Ritalin per day at home but this was later decreased to 5mg. Both the present class teacher and the researcher rate her on a 3 for inattention. However, criteria of impulsivity and hyperactivity are rated at a 1-2, depending on whether or not the medication has been given at home. Ironically, after seeing the psychologist last week, the dosage was increased back to 10mg.

4.4 PRESENTATION OF THE FINDINGS

The data were obtained through a qualitative method, using interviews with Foundation Phase Teachers. The purpose was to determine their knowledge and understanding of ADHD.

All the teachers were females, which in itself is evidence that teaching in the Foundation Phase is predominantly done by females. The teachers' ages ranged from 30 to 63 years. This equates to an average of 47, 5 years. Their teaching experience ranges from 4 years to 34 years with an average of 20, 7 years teaching experience. Approximately half of those interviewed were in a position of Leadership while 5 were members of the Institutional Learning Support Team, commonly referred to as the ILST Team. There were three Learning Support Teachers which definitely impacted upon and influenced their knowledge and experience dealing with children diagnosed as having ADHD. Six teachers were on a post level one; two teachers were on a post level two, one on a post level three and one on a post level four.

A table was designed to record the number of children officially certified by a Psychologist as having ADHD from 2010 to 2014. According to ILST records, it was established that in 2010 – 12 boys and 3 girls were diagnosed as having ADHD. A total of 55 boys and 15 girls were diagnosed as having traits of ADHD. Thus over a period of five years a total of 70 children were diagnosed as being ADHD, of whom the vast majority were being administered varying doses of Ritalin.

Between the years 2010 and 2012, there were on average a total of 450 children present at the school per year. However, between the years of 2013 and 2014 there were on average a total of 480 children per year. This equates to a total of 3.010% of

children who were officially diagnosed as ADHD at the chosen Foundation Phase School in the Western Cape. ADHD is concerned with the inability to focus, being unable to control behaviour, and overactive. The three main symptomatic character traits decided upon as most evident in the diagnosis of the chosen children were inattention, impulsivity and hyperactivity. Inattentive behaviour implies not being able to focus. Traits consist of dreamy, non-listening, easily distracted, inattentive when spoken to, doesn't follow through on instructions and even subtle learning problems. Impulsivity implies not being able to control behaviour. Traits such as easily excitable, disturbs others, interrupts others, shouts out answers. Hyperactivity implies being extremely active. This consists of being fidgety, restless, impulsive, and impatient and always 'on the move'. There definitely appears to be a fluctuation in the number of children being diagnosed as ADHD, however there is no doubt that a far greater number of boys were being diagnosed. In fact, it must be noted that at the school itself, there were slightly more girls enrolled than boys, but this varied per year. The following themes emerged from the data.

4.5 THEMES REGARDING THE PREVALENCE OF ADHD

The following themes emerged from the study:

- 4.5.1. Lack of understanding of ADHD
- 4.5.2. Subjectivity and ADHD
- 4.5.3. Factors influencing diagnosis of ADHD
- 4.5.4. Criteria to identify ADHD
- 4.5.5. Stereotyping differences

The main research question: "Which criteria are used by the teachers to suggest a possible Attention Deficit-Hyperactivity Disorder in a child?"

4.5.1. Lack of understanding of ADHD

The participants were adamant in stating that from the specific ADHD child's barriers that affected them personally the most were the child's inattentiveness, inability to complete tasks, disruptiveness as well as the outbursts which constantly needed their

attention. This is clear in some of the teachers' comments about their understanding of the terminology of ADHD are captured below.

R 1: regarded ADHD as:

It is a disorder that is an inability to focus, short concentration span. The child shows disruptive behaviour.

It was suggested that the inability to pay attention and focus led the child to not follow the lesson, thus they became disruptive as a result.

Similarly, R 3: suggested short attention of some children:

Children who are unable to give their full attention and co-operation to the task at hand.

R 9: referred to ADHD as:

It is a child with concentration problems, perhaps not being able to complete tasks, task avoidance, over active in the class, inattentive, on the go all the time and underachieving.

It was also mentioned that ADHD related to inappropriate behaviour which was considered not to be the norm.

R 8: commented on ADHD:

ADHD is a disorder where either the child's attention or hyperactivity or impulsivity is not appropriate for the age or stage of ability where they are at. It differs from what should be the norm especially when compared with age appropriate class sibling.

A teacher referred to the necessity of bridging the gap, getting the child to accept you and thereby to forming a relationship regarding good work ethic:

R 9: mentioned challenges regarding ADHD:

The challenge is first to connect with the child. What would be a challenge for me is to be prepared with things that will interest him so I will need to be proactive.

The teachers also realised that they never fully understood the underlying factors which contributed to ADHD and that this impacted on their reaction to the child's behaviour.

R 5: commented on their lack of understandings of the symptoms of ADHD:

If one is not aware of the symptoms of such a child then you wouldn't know how to deal with it and in today's environment and even at our schools. Very few teachers are aware of what to do.

Generally, the researcher feels that the teacher's understanding of ADHD is superficial. The teacher's knowledge was basically obtained from the "hype around the topic" and not actually based on proven scientific fact or accepted definitions regarding ADHD. The teachers also realised that they never fully understood the implications of ADHD and that this impacted on their reaction to the child's behaviour.

It appeared as if ADHD became a general scape goat upon which to blame many other forms of misbehaviour. The teachers generally found themselves unable to cope with the problem. The actual diagnosis of ADHD is unfortunately not so clear, specifically when the issue was compounded with other comorbid disorders.

4.5.2. Subjectivity and ADHD

This inclusion of the teacher could help give another dimension, particularly of balance and comparison with peers of the same age, similar circumstances and in a similar situation which otherwise would not be taken into account thus helping to prevent a misdiagnosis. Some of the teachers' comments about subjectivity and ADHD and who should be involved in diagnosing ADHD are captured below. The teachers felt that they observe the children throughout the day since they spend the majority of the time with the children.

R 5: stated that the teachers spent a large amount of time with the children:

The teacher is there most of the day so they should be able to advise and complete the Connors form for the doctor or the psychologist. So the teacher should be involved as the teacher can also assess during the day whether the child needs a top up during the day and if the dose is too strong or is the dosage too weak.

R 9: indicated that they should be part of the decision making:

I think so, yes they should be. The psychologist will only hear the parent's side but I feel he also needs to know how the child is operating in class with his peers. His behaviour might be different at home whereas in class he is not co-operating and is lashing out at children.

However, R 10: disagreed stating:

I think that after the diagnosis has been made then we have to be part of it. But, prior to that, we can't diagnose the child. I am not going to say that this child portrays as ADHD. I would suggest to the parents to have it investigated. The initial identification of ADHD is beyond a teacher's role or qualifications. Diagnosis of ADHD cannot be done in isolation.

This particular comment indicates that although teachers feel strongly that they should be considered with regard to helping identify ADHD, they most certainly recognise that they are not the professionals in this case hence the diagnosis requires a team effort of which each stakeholder must contribute their expertise.

An Individualised Education Programme should take into account the child's strengths and weaknesses and also how these should be academically implemented by the teachers as well as the parents of the child concerned, tips and clues which will help the child remain focussed on the task at hand thereby creating and maintaining a happy, balanced learner who experiences success.

According to the WCED, ILST Procedures, the correct protocol to be followed at a government school is firstly that a child, once identified by the class teacher, be referred to the ILST. A case presentation is made regarding the areas of concern. The

ILST makes decisions and recommendations and if necessary informs the parents of the school's concerns. The school then refers the child to the different service providers such as the occupational therapy, speech therapists, psychologists and paediatrician. At this point an Educational psychologist might be required for further advice. Sometimes the paediatrician is necessary to check that there are no medical problems or if medication is needed to be prescribed.

Regarding the procedures, the first step after early identification was for the class teacher to take.

R 2: firmly implied the teacher to take:

Responsibility and ownership to give the child guidance.

The teacher is fully responsible for the child's education thereby enabling the child to reach their full potential.

Thereafter R 1: commented on the possible procedure to be followed:

A meeting was to be convened with the ILST to discuss the situation and to identify the procedure to be followed. If necessary, the child could attend Learning Support once or twice per week for approximately thirty minutes per session receiving the necessary extra input in the learning area in which a problem occurs.

R 4: and R 6: agreed:

If it was necessary, further professional help could be obtained to either direct or confirm the diagnosis. This could include Paediatricians, Psychologists, Language and Speech Therapists and Occupational Therapists.

This further re-enforces the fact that a team effort is necessary, the strategies mentioned consisted of early intervention, hence the teachers felt it important that they be kept up to date regarding the strategies needed. A workshop was deemed necessary to explain early identification so that everyone had the same understanding, as well as to explain the correct procedure to be followed. They requested that this

form part of a policy relating to the ILST. A meeting was to be arranged and presented by a member of the Learning Support.

R 1: stated that:

The necessity of early intervention could be identified through the “Baseline Assessments” which are supplied by the WCED or through “Diagnostic Assessments”.

Generally the teachers agreed that the observation of the child plus the recording of evidence are of utmost importance. They felt very strongly that without the observation of the child’s behaviour by the class teacher, other teachers who take the child for other activities such as physical education, art, extra murals and in the playground there could be a bias and to prevent that happening, observation of the child is necessary. The teachers felt it important to record the observations but stressed that there had to be a “standardised acceptance of behaviour”. They initially used class rules, grade rules as well as school rules to compare the child’s behaviour patterns. However, when it was necessary to identify learners who are ADHD, they agreed it was necessary to make use of a standardised method which is used by the School Health Services – Connors Questionnaire (abridged).

R 10: commented on their opinion on the necessity of the Connor’s Form:

In my opinion the Connor’s Form is a behavioural form. It monitors the behaviour of the child, the emotional behaviour, the social interaction.

The Learning Styles of each child are to be considered so as to make use of the child’s strengths to promote positive learning. Time frames are to be considered and made more realistic to suit the child’s requirements and abilities. Cohesive groups to be encouraged to help improve self-esteem.

R 6: suggested:

A child should be taught according to his or her level of abilities.

This particular theme resulted in mixed feelings since respondents were adamant that they spend a lot of time with the children and are therefore far better equipped to

“compare the child to others of a similar age within the same scenario”. If nothing else, they feel strongly that they should be consulted since they play a major role in the child’s education. They also feel that the parents possibly form a bias since medication can “cover up” socially unacceptable bad behaviour of poor academic achievements. They also suggest that some parents may even coerce the doctors into prescribing medicine.

4.5.3. Factors influencing diagnosis of ADHD

It was apparent the views expressed here concentrated on the viewpoint mainly from a teacher’s perspective and not those of actual causal factors only. Very important were the comments around the home circumstances being: lack of discipline and educational structure. There seems to be very little homework supervision or academic commitment. This appears to be a general “complaint” which is most certainly having an effect on academic achievements as well as discipline since the teachers felt that there was very little support from the home especially from the biological parents. A major pressure has been placed on the child’s grandparents to be substitute parents. This doesn’t encourage a cohesive relationship between the school, parents and children.

The teachers felt that what types of food the children eat – specifically fast foods, as a possible reason for an increase in ADHD. They felt that it contributed to causing hyper-activity resulting in a lack of ability to pay attention and focus. The children seldom had a healthy lunch packed for school intervals. Often treats such as sweets, chips as opposed to a variety of fruits were given. The weekend news from the children often implied eating out at fast food venues. There was most certainly a general lack of concentration, a more “fidgety atmosphere” as well as poorer behaviour displayed after a weekend.

Some of the teachers' comments regarding factors influencing diagnosis of ADHD were captured as follows.

R 3: suggested influencing factors such as:

Their diet, their class placement and in that I mean the teacher they are placed with and the seating in the classroom and then the types of teaching methods used by the teacher.

R 5: referred to the family history and the child's environment:

We have to look at the child's family history and look at the child's environment, look at the child's medical record. Also the child's environment, the child's eating, the child's system and structure at home.

R 8: spoke about the holistic influences:

Their home background, their socio-economic background, emotional past background and everything that has happened to them emotionally, parents involvement, their upbringing. All those things would have an effect on how they behave in the classroom.

R 2: suggested a time frame:

It needs to be in a space –present, of six months or more. It must happen on a fairly continual basis, not just on a seldom basis.

Poor eating habits don't necessarily cause ADHD but it does influence the severity of ADHD (O'Regan, 2014:9). Balanced, wholesome meals are essential to help decrease the possibility of worsening ADHD symptoms. Excessive fast foods and foods of a poor nutritional quality such as chocolates, fizzy drinks – unregulated energy drinks and cakes – high in sugar, on a regular basis will most certainly exacerbate the situation. According to the teachers, this may also be compounded by the fact that eating out often results in the children getting home late for their bed times resulting in tiredness and irritability which obviously carries over to the next school day.

Medication that was often haphazardly administered affected the child's behaviour. Sometimes medication, which was intended to be administered at home, was not

given. Often an either over stimulating and cluttered or totally under stimulating environment was also seen to affect the child's behaviour. Too stimulating just confuses the issue often distracting the child's attention. Here the teachers specifically referred to too much watching of television, usually unsupervised, as well as the abundance of computer and cell phone access (Walker, 2013:65).

The teachers also commented on their own teaching styles as not being relevant to the ADHD child. They felt they don't always take into account the child's individual needs. Here the teachers felt that they should draw up an Individual Educational Programme (IEP). They saw this as being specialised. They felt insufficiently trained therein and it was also considered time consuming since they were already burdened with excessive workloads. It was suggested that the Education Department supply a facilitator. Many factors influence the prevalence of ADHD. Genetics, brain injuries and brain activities appear to be definite factors. Factors such as environmental, nutritional, media hype or simply the teachers and parents expecting too much from the children, are still to be confirmed.

4.5.4. Criteria to identify ADHD

Regarding the Connors Form and the observation of the children the main criteria chosen were:

1. Inattention

The teachers felt very strongly that there was a definite drop in the children's ability to pay attention. This was obvious as the medication started to wear off; hence a top up dosage was often recommended by the psychologist. It was a major problem in the class since the lack of attention span created chaos with regard to lack of acceptable discipline in the classroom. According to the teachers, they had to change their whole class structure and specifically the lessons, especially the content and methodology. It was obvious from observation of the children that more repetition is required since the children simply are not paying sufficient attention to the teacher's instructions. Lack of enthusiasm or commitment from both the child and the parents, is evident.

2. Hyperactivity

Once again it was obvious that the children diagnosed with ADHD started to fidget, move around the class, fiddle with stationary equipment. They appeared unable to sit still for any length of time irrespective of the circumstances.

3. Impulsiveness

Some of the children often became impulsive, even irrational in their behaviour – showing very little regret or conscience about their behaviour. Outbursts either in behaviour, fighting, bullying or verbal, screaming, tears are far more common than before especially over the last few years.

Parent involvement or lack thereof as well as commitment has, according to some of the teachers, dropped drastically. There appears to be a philosophy from some parents of, “we are paying school fees, so the teachers must do everything else.” Homework is not always done or monitored by parents. The teachers are expected to take full responsibility for the child’s education.

The main characteristics or traits regarding the diagnosis of ADHD considered by the teachers were specifically inattention, hyperactivity and impulsivity. Other influencing factors include short attention span, disruptive, incomplete tasks and continual fidgeting- excessive movements.

R 1: suggested characteristics of:

Incomplete tasks, short attention span, disruptive, fidgeting, day dreams, unnecessary movement, walking up and down.

R 4: commented on ADHD:

Well for ADHD the child will definitely show up as unable to focus, short attention span. They are normally fidgety; they often get triggered quite easily. Their work is incomplete. They might not have the hyperactivity which normally they then just sit and fidget. If they’re hyperactive it’s very hard to keep them in their seat focusing on one thing at a time.

R 8: referred to the traits of:

It's the questions about distraction, the ability to concentrate in the classroom situation and completion of tasks is probably the most important to me.

R 9: stated ADHD:

In a child with ADHD, words that would stand out for me are disruptive, impulsive, aggressive, and hyperactive.

The teachers agree on the main criteria of short attention span, inattention, impulsivity, hyperactivity, disruptive, incomplete tasks and continual fidgeting, excessive movements, these criteria are to do mainly with behaviour, rather misbehaviour or a non-conformity to the acceptable or expected behaviour considered to be the norm, specifically by the individual teacher.

It must be emphasized that there are no objective measures for diagnosing ADHD, specifically no single assessment that can be used in isolation to diagnose ADHD. The teachers together with the parents and specialists form an integral role in the assessment process.

4.5.5. Stereotyping differences

It appears that boys are usually labelled as being more aggressive, more verbal and usually more likely not to conform to a classroom environment than their female school classmates. This behaviour is partially "blamed on" the boys, at school, being more immature than the girls. Boys often appear to be more physical and to some extent intellectually challenged in comparison to girls from the same circumstances regarding factors such as age, gender, socio economic circumstances. The teachers' comments regarding Stereotyping Differences are captured below.

R 1: commented on labelling:

The boy-child has often been labelled as being physically more active than his peers from the opposite sex.

R 3: mentioned different maturity levels regarding the different sexes:

Boys mature and progress at different levels to girls. They therefore behave very differently. Unfortunately they are then often misdiagnosed as being ADHD because they struggle to sit still, be quiet and work independently.

R 10: discussed the perceived personality of boys:

Boys generally have a very robust type of personality. They come across as very busy, energetic and lively and this is one of the criteria or symptoms that is associated with ADHD. Unfortunately, it's only one of the criteria and that's where the misdiagnosis comes in.

R 7: regarding victimization of boys:

The boys are more picked on, more active than girls.

Teachers also mentioned that boys are often judged differently from girls, this is clear in the following statements:

R 1: mentioned gender bias:

Gender bias is a very real phenomenon in our society and the school is no different. Stereo-typed mind-sets are characteristic cultural backgrounds. Often boys are expected to be tough and resilient. They do not enjoy the same sympathy as girls with frail personalities.

R 3: spoke about teacher bias:

Some teachers are definitely more biased and try to label most of their "challenging boys" as ADHD and have them medicated. As girls are often more mannered and better behaved than boys, they tend to be "judged" less harshly or quickly.

R 5: discussed the difference between boys and girls regarding behaviour traits:

A girl seems to be more relaxed and quiet, able to focus and concentrate whereas boys will show in their actual behaviour, in their actual body language.

R 7: referred to comparing of boys to girls behaviour:

The boys are more picked on; they are seen to be more active than girls. Comparing boys to girls doesn't seem normal and that is why more boys are diagnosed as ADHD.

There is a definite comparison between the sexes. The expected norms that boys must be tough and girls are fragile. This sometimes appeared to be the excuse why boys were unable to conform in comparison with their girl classmates. Girls appear to conform to the female teachers' expectations of obedience and compliance, whereas boys are typically "boisterous" displaying a non-conformist behaviour.

It was also mentioned that hormones influence the child's behaviour as stated in the following statements:

R 1: refers to the influence of hormones:

Definitely, Boys are naturally more aggressive by nature whereas girls generally appear more nurturing – motherly instinct. Girls try to comply whereas boys just want to explore. It all boils down to the difference of maturity at a younger age in Foundation Phase girls of an equivalent age are usually far more mature than the boy.

However, R 10: disagreed stating:

Due to the fact that girls as well as boys display aggressive behaviour, in my opinion this means that aggression is not caused by biological – genetic tendencies such as male testosterone or oestrogen – quieter. Their genetic make-up doesn't affect their behaviour.

R 7: was not totally stated that she felt it not to be totally according to genes:

Girls can just generally control themselves better, control their impulses better. They just don't demonstrate it as clearly as the boys. Boys just show it- their behaviour, more.

This definitely was an area of contention. Several teachers were adamant that genetics played a major role in the boys' exuberance, inability to sit still as well as to their aggressive nature. Other teachers disagreed stating that misbehaviour should not be excused based on the factor of sexuality. There were also girls who performed inappropriately and were diagnosed as ADHD. This appeared to be influenced with the teacher's personal opinions. Those who themselves had boys as children, were more "understanding" and acceptable of the difference in behaviour. Here, an interesting factor appeared to be the teacher's experience and age. The younger teacher was not so stereotyped in behaviour expectations. They simply felt that there was a difference between children's behaviour due to various circumstances. This behaviour was not totally due to the gender of a child.

Difference in the sex of the class teacher:

It was mentioned that to some extent there is a difference between how male and female teachers differentiate in their diagnosis of the children. It appeared also to be based on the teacher's personality. Males generally are not concerned with issues which their female teachers consider important, such as sitting still, neat handwriting, shouting out in class and even to some extent of "bad behaviour".

R 1: discussed the sex of the teacher and how this influenced the situation:

Male teachers are often expected to treat girls with respect regardless of their manipulative traits. Female teachers are expected to display maternal qualities, but not all females can be naturally maternal. Across the gender divide there are often personality clashes. These create learning barriers and often the teacher is the learning barrier!

R 7: felt personality of the individual was an important deciding factor:

I think that it all depends on personality, the teacher's background." "Male teachers don't pick it up- misbehaviour, over active. They just like – not as judgemental as females. I think women are a lot more judgemental pick little faults and look for little problems. More than males do.

4.6 SUMMARY OF THE FINDINGS

The main factors taken into account to assess which of the criteria the teachers use to determine the possibility the child has Attention Deficit-Hyperactivity Disorder were inattention, hyperactivity and impulsivity. Other criteria observed were 'dreamy', 'doesn't follow instructions', excitable, disturbs others, interrupts others, shouts out answers, fidgety, restless, impulsive, impatient and always "on the move". However, the main interpretation of these criteria is what appears to be the factors regarding the prevalence of a misdiagnosis of ADHD:

Factors to be considered are:

When does a "behaviour reflect as a misbehaviour" is a highly contentious issue. One person's interpretation may differ drastically from another person's, difference between sexes, factors of beliefs, values and even religion can be the determining factor. Interpretation of the ADHD criteria depends on many factors such as the gender of teacher, their age, specific school child attends, years of experience, their personality and own personal toleration levels. An individual has different expectations, requirements which influence their expectations of "acceptable behaviour".

Medication is still a highly debatable topic, especially the choice of stimulant or non-stimulant. Dependency on highly scheduled drugs is a major area of concern and debate. Whether drugs are just an easy way out without the teacher, parent and even the child being "stressed", is still questionable; it could even become an excuse. Labelling a child as ADHD can even be seen to "allow for the behaviour" or simply an excuse to accept bad behaviour or poor academic results. Labelling unfortunately conjures up negative connotations.

The school environment was not fully conducive to meeting the needs of an active child, specifically that of a boy. Apparatus such as swings, jungle gyms, playing fields and even climbing bars were present but "typical rough behaviour" of boys was usually not acceptable. Playing soccer, cricket or simply running around before school was not always fully encouraged. It was considered as "making the child hyped and thus

difficult to teach once they were back in the class. There was also the “fear” of a child getting hurt and this itself led to unnecessary repercussions.

Girls appear far more prepared to conform, whereas boys appeared to be unable to sit still, just listening to whatever was said. Their ability to pay attention for extended periods definitely was far shorter than the girls. They tended to be far more easily distracted and also less concerned with work ethics. They were generally far more physical, requiring greater conscious effort by the teacher and themselves, to get them to concentrate.

Further to compound this issue is the reality of life being such that children can't play outside at home without supervision because of various factors such as crime, gangs and simply lack of safety. This has a negative effect since they are unable to play thus getting rid of excess energy and frustration. This lack of exercise is worsened by the fact that skills for life such as lack of socialising, team play and discipline are not learnt in a natural environment.

Considering the fact that most Pre- Primary institutions have predominately female teachers, there tends to be a bias of not having a fair balance regarding the understanding specifically of the boy's behaviour. The male figurehead was lacking. This was further exacerbated by the fact that so many children nowadays come from malfunctioning home circumstances, specifically that of single parents.

Topkin, et al. (2015) refers to ADHD as being one of the most common chronic conditions of childhood. It is necessary for the teachers to play a role in the child's referral and diagnosis. Teachers are considered able to create a positive and conducive environment to enable the child to reach their own emotional, social & academic potential. The findings indicate that the teachers had an average knowledge & understanding of the general features related to ADHD. Unfortunately the symptoms, diagnosis and treatment thereof were not fully understood. The above findings concur with those of Perold, et al. (2010).

4.7 CONCLUSION

The aim was to investigate the prevalence of the misdiagnosis of ADHD within a sample of foundation phase children at an Inclusive ex Model C Preparatory School in

the South Metro, Western Cape by uncovering which criteria were used by their teachers, to suggest that a child has ADHD.

The teachers were the main respondents in this study. The research indicated that they were using the correct criteria but that the interpretation of exactly what the criteria should represent was not fully understood. The teachers also realised that they never fully understood the implications of ADHD and that this impacted on their reaction to the child's behaviour. This was further compounded by their lack of knowledge specifically relating to the comorbid factors and how these affected the child's behaviour and hence resulted in a misdiagnosis of ADHD. (Kern, et al. 2015:3042-3059).

They also felt the need to be part of the diagnosis process since they spent so much time with the children and were generally able to make a far less emotional decision. Although they benefitted from the ILST itself, further support and guidance was needed specifically regarding the explanation of the criteria, procedures regarding protocol as well as further discussion of the traits of the boys' norms of behaviour. They also commented on the need for workshops regarding greater parent involvement and specifically parenting skills to enable parents to cope with problematic child behaviour with the purpose of intervention before medication was suggested and administered.

It was mentioned that the teachers needed more support from the Education Department regarding support of severely disruptive children who had not yet been placed on medication. The process of referring a child for medical intervention is viewed as a lengthy process, and valuable time is often lost.

The experiences of the teachers in the criteria chosen to determine ADHD was discussed in detail in this chapter. The findings were consistent according to the data collected. This research showed that the teachers' choice of criteria was sound but the main challenge was for a more balanced and defined understanding of the required terminology.

Chapter 5 includes the summary, recommendations and conclusions of the study.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS OF THE STUDY

5.1 INTRODUCTION

In this study a qualitative approach was used so as firstly to determine the teachers' understanding and choice of criteria regarding ADHD. It concentrated firstly on an interview with the teachers and secondly an observation of several children previously diagnosed with ADHD. Data was collected through interviews, document analysis and observations so as to answer the research question.

The following was the main objective of the research:

To assess which of the criteria the teachers use to determine the possibility the child has Attention Deficit-Hyperactivity Disorder within a sample of foundation phase children who have been previously diagnosed with the disorder.

The findings proved to be consistent across the data collected. The research enabled the participants to express their views of which criteria regarding Attention Deficit-Hyperactivity Disorder were chosen.

5.2 SUMMARY OF THE FINDINGS

In order to further the topic meaningfully, it was necessary to address the following question:

What criteria do the teachers use to suggest a possible diagnosis of Attention Deficit-Hyperactivity Disorder?

The main criteria chosen by the teachers were the symptoms of inattention, hyperactivity and impulsivity. These criteria considered by the teachers were derived from the DSM V. Other influencing criteria included a short attention span, disruptive, incomplete tasks and continual fidgeting. The main concern affecting their decision making was the interpretation of the criteria as well as the influence of subjectivity.

The following sub-questions were used to explore the research further:

What is the Teacher's understanding of ADHD?

The teachers had a basic workable knowledge and understanding of the general features related to ADHD. On the odd occasion, their understanding of ADHD was based on the media and opinions from others. They definitely chose the most pertinent criteria regarding the identification of ADHD. They never fully understood the comorbid conditions which could influence the possible prevalence of ADHD. The symptoms, diagnosis and treatment thereof were definitely not adequately understood.

What other factors influence the teacher's suspicion that the child may have ADHD?

The factors the teachers considered were specifically related to possible causes of the child displaying behaviours of inattention, impulsivity and hyperactivity within a school situation. The teachers were concerned with those of home circumstances, dietary factors, mismanagement of medication, environmental circumstances as well as the teacher's own teaching style not being suitable for the child to be educated efficiently.

5.2.1 Lack of understanding of ADHD

The teachers realised that they never fully understood the underlying implications which contributed to their identifying of criteria for ADHD. Factors of comorbid disorders such as conduct disorder, learning disabilities, Tourette syndrome, oppositional-defiant disorder, and developmental coordination disorder were either not understood or the possibility of it influencing the ADHD criteria not known.

Topkin, et al. (2015) states that research indicates that the teachers had an average knowledge and understanding of the general features related to ADHD. However, the symptoms, diagnosis and treatment thereof were not as well known. The teachers were asked to explain their understanding of the following terminology with the aim of determining their understanding of the concepts. Generally the teachers considered the term inclusion implying that all learners are to be included at the same institution and implementing the same curriculum but adjusting the assessments and allowing for extra pertinent conditions in the main-stream classes. The children are all to be treated as equal and everyone is educable.

The participants agreed that the ADHD child's barriers that affected them and the classroom situation the most were the child's inattentiveness, inability to complete tasks, disruptiveness as well as the outbursts which constantly needed their attention. This impacted on the child's inability to attain their full potential as well as having a negative effect on the classroom learning. This further impacted on the whole classroom situation thereby inhibiting others from achieving their potential since the teacher's attention was being spent on the ADHD child.

The Learner Support teacher could help work out programmes specifically for the child by designing Individual Education Programme (IEP). This would be such as ability programmes, activities of high interest and of differing time concentration spans. It is apparent from the study that the teacher understands of the term of ADHD is incomplete. The teacher's knowledge and understanding appeared due to the "hype around the topic" and not actually practical experience or facts.

5.2.2 Subjectivity and ADHD

The actual professional diagnosis is usually administered by a trained professional. They often request the teacher to assist by rating the child's behaviour on a standard evaluation scale such as the Connor's Form.

The teachers felt that they were in an ideal position for early identification of ADHD since they were in a classroom, thereby being able to compare with age appropriate classmates. Subjectivity occurred regarding the interpretation of what the specific criteria on the DSM V actually meant as opposed to an individual interpretation thereof. A further problem influencing subjectivity occurred when the teachers questioned what "normal standardized acceptance of behaviour" actually is (Barkley, 2015:70-73).

5.2.3 Factors influencing diagnosis of ADHD

Factors of concern from a teacher in a classroom situation were mainly home circumstances, diet and nutrition factors, medication effectively being administered thereby allowing for a reliable consensus that it is necessary as well as significant teaching styles to be able to give the child the opportunity to learn through various different modalities (ADHASA, 2009:125-132; Kewley, 2011:45-47).

The home circumstances, especially those of a lack of discipline and educational structure were considered of utmost importance. Generally, from the parents, there appears to be very little homework supervision or academic commitment. This lack of parental support has a drastic effect on both academic and discipline issues. Unfortunately, this doesn't encourage a positive relationship between the school, parents and children.

The teachers felt that fast foods were a possible reason for an increase in ADHD, specifically hyper-activity, inability to sit still, pay attention and focus. The children seldom had a healthy lunch packed for school intervals but usually brought sweets and chips. Bad eating habits don't necessarily cause ADHD. However, research does indicate a strong relationship between ADHD and the food that we eat. Regular intake of fast foods and foods of a poor nutritional quality such as fizzy drinks and cakes which are high in sugar, on a regular basis will most certainly worsen the situation. The teachers feel that too much eating out often results in the children getting home late for their bed times resulting in tiredness and irritability which obviously carries over to the next school day.

Medication was not always regularly administered and this influenced the child's behaviour. Sometimes medication, which was supposedly administered at home, was not given simply because the parents forgot in the early morning rush to work.

The teachers commented on a too stimulating an environment just confusing the issue, often distracting the child's attention simply because of an information overload. Here the teachers specifically referred to a cluttered classroom situation as well as too much watching of television, computer and cell phone usage.

The teachers must incorporate relevant teaching styles which can play a role in influencing the child's ability to sit still and pay attention. The relevant style of teaching must take into account the child's specific needs. Each child learns differently depending on whatever modality is their strongpoint. A child with ADHD needs short intense bursts of input followed by a chance to assimilate what has been done.

5.2.4 Criteria to identify ADHD

Early identification is essential. Once a teacher suspects that a child might have ADHD there are certain procedures that must be followed. A child should be referred to the ILST team, the parents consulted to discuss the way forward and finally an assessment via the psychologist or paediatrician to confirm the possibility of the child having ADHD. Usually the teachers are requested to complete a Connor's Assessment Rating Scale which enables the teachers to rate the child's behaviour, moods, social skills and concentration, distractibility, hype-active or even totally withdrawn (Reid & Johnson, 2012:41).

Regarding the procedures the teacher should keep an Observation Sheet on which is recorded events throughout the day, and this is compared to a Discipline Record on which events such as bad behaviour, outbursts, fighting, aggression, crying are recorded. A "red flag" is usually given when various behaviours that are not classified as normal or age appropriate occur on a fairly regular basis (Barkley, 2015:70-73). An ILST meeting is then held where the teacher presents the scenario explaining to the team what the teacher's concerns are regarding the child.

Once it has been established that a child might have ADHD, the parent or teacher can refer the case to the child's general practitioner, who can refer to a specialist. The parents can also contribute by giving feedback on how the child behaves at home. This gives another perspective to the situation since it can either be confirmed that similar behaviour is occurring at home or that the undesirable behaviour is only evident at school. The teachers supply information from a school's perspective which is vital for the completion of the diagnosis. Usually a rating scale will need to be completed by the class teacher of the child concerned. Even previous years' teachers as well as teachers of non- academic subjects e.g. physical education, sport, music and computers should be consulted. Research states that the Connor's Assessment Rating Scale is an accepted, valid and reliable means to help determine Attention Deficit-Hyperactivity Disorder.

5.2.5 Stereotyping differences

Schelleck, et al. (2012:12) states that the diagnosis of ADHD can often be influenced by gender as well as a non-adherence to the typical diagnostic criteria. This often results in an over diagnosis particularly amongst the boys mainly because they don't conform to the expected behaviour. The girls' generally tend to want to conform to the acceptable norms and behaviours thereby to please the teacher. Hence they are not so easily identified as having ADHD.

Many different factors contribute towards stereotyping differences such as:

There is a definite difference regarding criteria chosen based on the sex of the child being diagnosed as having ADHD. The expected norms are that boys should come across as being tough while girls were expected to be nurturing by disposition. Generally boys are considered more aggressive, more verbal and less likely to conform to a classroom environment than their female counterparts.

Hormones affecting behaviour is an area of major contention. Some teachers were adamant that genetics played a major role in the boys' exuberance, inability to sit still as well as to their aggressive nature; while others disagreed stating that misbehaviour cannot be attributed to gender alone, if at all. It was also mentioned that to some extent there is a difference between how a male and female teachers discipline the children.

5.3 RECOMMENDATIONS

The following recommendations are suggested:

Interpretation of the criteria:

- A workshop to explain the Criteria of the DSMV as well as the Connors Form is necessary. This could be undertaken by the Learning Support Educators.
- Parents and teachers fill out a Connors Form to give comparative advice regarding the child's behavior to the professionals such as doctors, psychologists and pediatricians.

Influence of subjectivity:

- It is important to get an unbiased assessment hence the class teacher, all others involved in the child's education should be consulted such as music teacher, physical educator, librarian, art teacher and sports educator. The Teachers stated that by the time they got to this stage, the situation usually had deteriorated, especially behaviour, hence they commented accordingly.

Home Circumstances:

- Parenting Skills which could be provided by Planned Parenthood, Social Worker or WCED Educational Services.

Dietary Factors:

- Life Skills to introduce Healthy Eating Habits so as to monitor "healthy lunches"

Mismanagement of Medication:

- Identifying and recording the children who are administered medication, A daily record of medication administered and the monitoring thereof must be kept in a safe place.

Too busy or cluttered an Environment:

- Ensure classroom is a balanced stimulating environment concentrating on an attractive, friendly atmosphere allowing for a "time out – quiet" area.

Use of relevant Teaching Styles:

- Identify the child's strongpoints especially which modality they prefer to learn through.

Gender and non- adherence to the expected "norms of behaviour":

- Gender differences must be taken into account to prevent a bias developing. The teachers must decide on what is acceptable behaviour for both sexes.

Comorbid conditions:

- The teachers do not fully understand the symptoms of ADHD and therefore there is a necessity for better training and workshops to enable the teachers to identify children having ADHD. This could take the form of teachers attending seminars produced by ADHASA – or simply self - explanatory pamphlets.

Medication prescribed for Attention Deficit-Hyperactivity Disorder:

- A need for better education on varying types of medication that is classified as suitable. This would enable the parents to be able to make an informed decision regarding the choice they feel most practical.
- A trial period where the child's behaviour and academic work is meticulously monitored. Possible "placebo" medication can be given to verify the necessity of the medication.
- A Connors Form must be filled in whenever necessary so as to check on the child's progress.

A multi-model approach:

The parents, teachers and specialists all play a vital part in the process of the diagnosis of ADHD (Reid & Johnson, 2012:51).

- The researcher feels that ADHD is far too a complex disorder to be diagnosed by one single test or an individual. Its complexity demands a group of specialists to work as a team to correctly diagnose and decide on the child's future. The team should comprise the parents, class teacher, school and specialists to enable a holistic outcome.

ADHD is compounded by socio-economic and political circumstances:

- The Government must commit to improving the living standards of all South Africans. There is a need for more facilities such as schools to be built and school feeding systems. Poverty certainly is an issue affecting the child's education.

Lack of understanding of ADHD:

- Staff development could be presented by specialists to help explain the characteristics of ADHD. The Psychology Department as well as the District Office – Learning Support could help educate and empower the teachers.
- It would also be beneficial to determine how many children should be considered acceptable so as not to burden the teacher unfairly. The teacher learner ratio regarding children with ADHD should be weighted, thereby limiting the number of pupils in the class so as to create a balance in the work load and demands placed on the specific class teacher.
- Commitment to and joining up with Communities who specialize in ADHD such as ADDITUDE and Attention Research which is an online service as well as in a “book format”

Subjectivity and ADHD:

- Educate the teachers and parents to fill in forms in an unbiased manner-
.educate them to be objective and not subjective
- Standardized Rules and acceptable behaviour norms must be discussed at staff level. Once decided upon, it must be followed without exception.

Factors influencing diagnosis of ADHD:

- Learning Support could prepare Home Programmes to help the parents or grand -parents to “teach” the children. This would empower the parents as well as create a feeling of responsibility for their child’s education.
- Class teachers to monitor an eating time before the actual break. This could not only be used to check that the lunch is nutritional but also to check that all the children have a lunch. The parents could help monitor this thereby empowering them to take responsibility.
- A record of medication to be administered must be signed and dated by the person responsible (one specific person).
- Medication should be locked away so as to prevent any access by anyone not responsible for the medication.

- Classroom to be visually attractive but structured and functional. Sections must be set aside for certain learning areas but it must not be too cluttered.
- Have “work stations” where the child gets a chance to experience relevant teaching styles and different modalities.

Criteria to identify ADHD:

- Keep an updated and functional Record of the child’s behaviour
- This observation of the children should be done within the classroom as a comparison to determine how they compare with their peers of equivalent age, social equality under similar academic situation. It should also be completed outside at break to determine how the child interacts with their peers while interacting in a non- academic environment.

Stereotyping differences:

- The school to cater within reason for all of the children’s physical needs by installing sufficient play facilities which involve exercise of a physical nature with should alleviate frustration and drop energy levels.
- Role playing to identify each individual’s expected behaviour norms are vital.
- Various activities within the class situation should include both sexes especially regarding physical and emotional activities.
- Counselling or Group Therapy sessions should emphasise that aggressive behaviour, disrespect and intolerance of others is not unacceptable.
- Possibility of more male teachers especially in the earlier Foundation and Primary Phases. The fact of so many single households proves the necessity of a stable male figure to which the child can relate.

5.4. RECOMMENDATIONS FOR FURTHER RESEARCH

Further research may be conducted on:

- A case study should be undertaken explaining the actual comorbid factors initially identifying the conditions, thereafter an explanation of how it affects the diagnosis of ADHD.

- A fully functional definition of and understanding regarding ADHD and its implications specifically for a class teacher.
- A study in the Western Cape Education Department to determine what criteria the teachers should use to determine the possibility the child has Attention Deficit-Hyperactivity Disorder.
- WCED's role and responsibility from the Inclusive Education Department regarding support to class teachers who have children with "learning Barriers".
- Collaboration between Class Teachers and Specialists to find the correct and practical procedures to be followed to identify the criteria to be used to identify ADHD.
- Checking up on the possible Gender bias in the criteria selection for males with ADHD.

5.5 STRENGTHS AND LIMITATIONS

The following are the Strengths of the Study:

- It became evident, be it from a small sample, that there were major differences in the genuine understanding, interpretation and what procedures were to be followed, who was responsible and together these may result in a misdiagnosis or an over diagnosis of ADHD.
- The children's physical sexuality was eventually taken into account and everyone was not expected to behave exactly the same. This resulted in more of a child; specifically a boy friendly environment being discussed and implemented allowing for more climbing activities, a larger ball game area was designated and monitored. Girls were encouraged to mix with the boys whenever they wanted to play the same games.

The following are the Limitations of the Study:

- The study concentrated on a Pre- Preparatory School of an ex- model C School situated in the Western Cape. This indirectly implies it thus to be a previously advantaged school environment.

- Mainly female teachers hence female stereotypes were promoted consisting of a more gentle behaviour of conformity.
- Boys and girls were initially stereotyped regarding their expected behaviour.
- The hype surrounding the diagnosis of ADHD is sometimes seen as an easy way out hence the coercing of doctors to medicate is not acceptable. Neither can ADHD become an excuse for poor achievement and misbehaviour. This cannot be encouraged or tolerated by either parent or teacher.
- Subjectivity regarding the teacher's personal teaching styles, expectations of conformity needs to be discussed.
- Lack of LSEN clarity regarding the misunderstanding of Inclusive Education must be challenged.
- Scholastically the syllabus should be revised specifically to cater for some new ways of learning being computer literacy, daily classroom and typical school interruptions, more realistic and relevant interest level. Specific change of emphasis from auditory to visual modalities.
- Interviews, observations and document analysis were used as a method of data collection thereby limiting the study, because the researcher depended on what the respondents stated. Although the participants gave their consent it was not possible to know if they were giving their honest opinions or simply trying to give the expected responses.

5.6. CONCLUDING REMARKS

It must be considered that the boundaries especially regarding the correct diagnosis of ADHD are still debatable. There is a combination of several assessments that can help guide the professional to make an accurate diagnosis. This implies that the professional often has to make subjective clinical judgements. A medical doctor's professional opinion is however essential to alleviate any other medical conditions that may be confused as ADHD. However, the medical profession must not be influenced or coerced into making decisions merely to "keep parents or teachers happy" via medicating the children into "obedience".

The teachers themselves cannot diagnose ADHD but they definitely play an important role in helping identify the possibility that the child should be considered and eventually

referred to a specialist for an ADHD assessment. Teachers are usually the first to notice the child has ADHD mainly because the actual symptoms of ADHD affect the child's schoolwork either through underachievement academically or disruptive behaviour of the harmonious classroom environment. The teachers are also able to compare the academic and behaviour amongst the class with accepted age appropriate classmates together under a fairly controlled environment.

When the teacher has noticed a difference, they should notify the parents who should then contact a professional to further investigate the situation. Since ADHD is based largely on observation of the child's behaviour, the teacher including other relevant key players can play a major role in evaluation. Thus the professional should take their observations into account.

Once a child has been officially diagnosed with ADHD, the parent and a professional must work closely with the school. They must make full use of the teacher's observations, facilities available such as school counsellor, school nurse as well as any Learner Support supplied by the Education. In reality, the child with ADHD will not benefit fully unless all parties agree and are on the same page regarding the way forward.

The main objective of the study was to determine which of the criteria the teachers use to determine the possibility the child has Attention Deficit-Hyperactivity Disorder. It can clearly be stated that they chose the correct criteria, mainly depicted in the DSM V, which were specifically inattention, hyperactivity and impulsivity. Other factors included short attention span, disruptive, incomplete tasks and continual fidgeting-excessive movements. However, the interpretation of the criteria as well as subjectivity influenced their decision making.

It appears there was a misunderstanding between misbehaviour and similar characteristics which depicted in ADHD. This often is proven to be so when a child apparently displays ADHD under certain circumstances yet the similar expected behaviour doesn't occur with another teacher or under similar circumstances at a later date.

The study indicates that there is a possibility of a misdiagnosis regarding ADHD especially when an educator is not fully trained or fully knowledgeable in that specific

area, hence further training is required as well as more professional teams to be made available to advise and assist in the correct procedures to be taken.

REFERENCES

- ADHASA. 2009. *Attention Deficit and Hyperactivity Support Group of Southern Africa*, Available: <http://www.adhasa.co.za> (Accessed: May 2012).
- ADHD-Institute.2012. */attention_deficit_hyperactivity_disorder/misdiag*, Available: http://www.rightdiagnosis.com/a/attention_deficit_hyperactivity_disorder/misdiag.htm / (Accessed: 6 May 2012).
- Amod, Z., Vorster, A. & Lazarus, K. 2013. *Attention-Deficit/Hyperactivity Disorder (ADHD) as a Barrier to Learning and Development within the South African Context: The Perspective of Teachers*, Available: <http://www.intechopen.com/books>. (Accessed: 15 January 2016).
- Anney, V.N. 2014. 'Ensuring the Quality of the Findings of Qualitative Research: Looking at Trustworthiness Criteria', *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, 5(2), pp. 272-281 [Online]. Available: [© Scholarlink Research Institute Journals, 2014 \(ISSN: 2141-6990\) jeteraps.scholarlinkresearch.org](http://www.scholarlinkresearch.org/jeteraps).
- Babbie, E. & Mouton, M. 2006. *The practice of social research*. Oxford: Oxford University Press.
- Barkley, R.A. 2003b. *Issues in the diagnosis of attention-deficit/hyperactivity disorder in children*. *Brain and Development*. New York: The Guildford Press.
- Barkley, R.A. 2015. *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment*, Fourth edition. New York & London: The Guildford Press.
- Beers, M.H. 2006. *The Merck Manual of Diagnosis and Therapy*. Eighth edition. New Jersey: Merck Research Laboratories
- Biederman, J. 2005. Attention-deficit/hyperactivity disorder: *A selective overview*. *Biological Psychiatry*, 57, 1215-1220.
- Bruchmuller, K. 2012. 'ADHD is over diagnosed: researchers provide unprecedented, reliable data', *Journal of Consulting and Clinical Psychology*, 80(1), pp. 128-138.

Available: <http://www.sciencenewsline.com/medicine/2012033016550011.html>.

(Accessed: 14 April 2015).

Cormier, E.C. 2008. 'Attention Deficit/Hyperactivity Disorder: A Review and Update', *Journal of Paediatric Nursing*, 23(5).

Creswell, J.W. 2008. *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage Publications

Creswell, J.W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Third edition. Los Angeles: Sage Publications.

Creswell, J.W. 2014. *Research design: qualitative, quantitative and mixed methods approaches*. Fourth edition. Thousand Oaks, CA: Sage.

Denzin, N.K. & Lincoln, Y.S. 2005. Paradigms and perspectives in contention, in N.K. Denzin and Y.S. Lincoln. *The Sage handbook of qualitative research*. Third edition. Thousand Oaks, CA: Sage: 183-190.

Department of Education. 2001a. *Education White Paper 6: Special Needs Education: Building an inclusive education and training system*. Pretoria: Department of Education.

Department of Education. 2002. *Revised National Curriculum Statement Grades R-9 (Schools)*. Pretoria: Department of Education.

Department of Education. 2005. *Conceptual and Operational Guidelines for Full-service Schools*. Pretoria: Department of Education.

Department of Education. 2011. *National Curriculum Statement (NCS): National Protocol for Assessment*. Pretoria: Department of Education.

Department of Education. 2014. *Policy on Screening, Identification, Assessment and Support*. Pretoria: Department of Education.

Elia, J., Gai, X., Xie, H.M., Perin, J.C., Geiger, E., Glessner, J.T., D'arcy, M., de Berardinis, R., Frackelton, E., Kim, C., Lantieri, F., Muganga, B.M., Wang, L., Takeda, T., Rappaport, E.F., Grant, S.F.A., Berrettini, W., Devoto, M., Shaikh, T.H.,

Hakonarson, H. & White, P.S. 2010. *Rare structural variants found in attention-deficit hyperactivity disorder are preferentially associated with neurodevelopmental genes. Molecular Psychiatry*, Available:

<http://www.nature.com.ezproxy.uct.ac.za/mp/journal/v15/n6/pdf/mp200957a.pdf>.

(Accessed: May 2012).

Fitzgerald, M., Bellgrove, M. & Gill, M. 2007. *Handbook of Attention Deficit-Hyperactivity Disorder*. Chichester, England; Hoboken, NJ: John Wiley & Sons.

Green, C. & Chee, K. 1997. *Understanding A.D.H.D: A parent's guide to Attention Deficit Hyperactivity Disorder in children*. South Africa: Random House.

Green, C. & Chee, K. 2011. *Understanding A.D.H.D: A parent's guide to Attention Deficit Hyperactivity Disorder in children*. South Africa: Edbury Publishing.

Guba, E.G. & Lincoln, Y.S. 1994. *Competing paradigms in qualitative research*. Newbury Park, CA: Sage.

Henning, E., Van Rensburg, M. & Smit, B. 2007. *Finding your way in qualitative research*. Pretoria: Van Schaik.

Kern, A., Amod, Z., Seabi, J. & Vorster, A. 2015. 'South African Foundation Phase Teachers' Perceptions of ADHD at Private and Public Schools', *International Journal of Environmental Research and Public Health*, 12(3), pp. 33042-3059.

Kewley, G. 2011. *Attention Deficit Hyperactivity Disorder. What can teachers do?* Third edition. London: Routledge, 11, 13.

Kutcher, S., Aman, M., Brooks, S.J., Buitelaar, J., van Daalen, E., Fegert, J., Findling, R.L., Fisman, S., Greenhill, L.L., Huss, M., Kusumakar, V., Pine, D., Taylor, E. & Tyno, S. 2004. 'International consensus statement on attention-deficit/hyperactivity disorder (ADHD) and disruptive behaviour disorders (DBDs): Clinical implications and treatment practice suggestions', *European Neuropsychopharmacology*, 14, pp. 11-28.

Landsberg, E., Krüger, D. & Swart, E. 2011. *Addressing Barriers to Learning. A South African Perspective*. Second edition. Pretoria: Van Schaik.

Leedy, P.D. & Ormrod, J.E. 2014. *Practical Research, Planning and Design*. Tenth Edition. New Jersey: Pearson New International Edition.

Meyer, S., Eilertsen, D.E. & Sunder, J., Tshifularo, J. & Sagvolden, T. 2004. 'Cross-cultural similarities in ADHD-like behaviour amongst South African school children', *South African Journal of Psychology*, 34(1), pp. 122-138.

Nigg, J. 2006. *What Causes ADHD? Understanding what goes wrong and why*. London: The Guildford Press.

NIMH Frontline -National Institute of Mental Health (April 2001) *Medicating Kids, Steps in making a diagnosis .Attention Deficit Hyperactivity Disorder (ADHD)*, Available: www.nimh.nih.gov/health/publications/attention.../adhd_booklet.pdf. (Accessed: 2010).

NIMH - National Institute of Mental Health. 2012. *Attention Deficit Hyperactivity Disorder(ADHD)*, Available: www.nimh.nih.gov/health/publications/attention.../adhd_booklet.pdf. (Accessed: 2012).

NWHIC ((Source: excerpt from NINDS Attention Deficit-Hyperactivity Disorder Information Page: NINDS)) *How are schools involved in diagnosing, assessing, and treating Attention Deficit Hyperactivity Disorder (ADHD)*, Available: <http://www.nimh.nih.gov>. (Accessed: 2012).

Peirce, J., Collins, C. & Levitt, P. 2008. *Psychological Disorders: Attention-Deficit/Hyperactivity Disorder*. New York: Chelsea House.

Perold, M., Louw, C. & Kleynhans, S. 2010. 'Primary school teachers' knowledge and misperceptions of attention deficit hyperactivity disorder (ADHD)', *South African Journal of Education*, 30(3), Available: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid. (Accessed: November 16, 2015).

Pfiffner, L. 2011. All about ADHD. *The Complete Practical guide for Classroom Teachers*. Second edition. USA: Scholastic Inc.

Pughe-Parry, D. 2008. I'm Audacious, Original and Innovative. I have AD/HD.

Quily, P. 2010. *ADHD diagnosis, treatment needs more analysis*, Available: <http://www.vancouver.sun.com/health/ADHD+diagnosis+treatment+needs+more+analysis/6282515/story.html#ixzz1sgG54MKR> (Accessed: 10 March 2012).

Rabiner, D. 2010. *ADHD – Cogmed*, Available: [\(http://www.rightdiagnosis.com/a/attention_deficit_hyperactivity_disorder/misdiag.htm/\)](http://www.rightdiagnosis.com/a/attention_deficit_hyperactivity_disorder/misdiag.htm/) (Accessed: 6 May 2012).

Reid, R. & Johnson, J. 2012. *Teacher's Guide to ADHD. What works for special- needs learners?* New York: Guilford Press, 25-31.

Schelleck, N. & Meyer, H. 2012. 'The management of attention deficit-hyperactivity disorder in children', *S Afr Pharm J.*, 79(10), pp. 12-20

Schurink, E. 2009. 'Qualitative Research Design as a tool for trustworthy research. Research Methodology and Design', *Journal of Public Administration*, Vol. 44. Ch. 4.

Sigelman, C.K. & Rider, E.A. 2006. *Life-Span. Human Development*. Fifth edition. Canada: Thomson Wadsworth.

Stahl, S. & Mignon, L. 2009. *Stahl's Illustrated. Attention Deficit-Hyperactivity Disorder*. United Kingdom: Cambridge University Press.

Swanson, R. 2013. *Theory Building in Applied Disciplines*. San Francisco, CA: Berrett-Koehler Publishers. Organizing Your Social Sciences Research Paper: Theoretical Framework. University of Southern California.

Topkin, Beryl, Roman, Nicolette, Vanessa, Mwaba & Kelvin. 2015. 'Attention Deficit Disorder (ADHD): Primary school teachers' knowledge of symptoms, treatment and managing classroom behaviour', *South African Journal of Education*, 35(2), pp. 01-08. Available: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0256-01002015000200013&lng=en&tlng=en.10.15700/SAJE.V35N2A988 (Accessed: 19 November 2015).

Walker, I. 2013. *Recreational Ritalin: The Not- So- Smart Drug*. Philadelphia: Mason Crest.

Whitcomb, S. & Merrell, W. 2013. *Behavioral, Social, & Emotional Assessment of Children & Adolescents*. Fourth edition. New York & London. Routledge.

Wicks-Nelson, R. & Israel, A. 2006. *Behaviour Disorders of Childhood*. Sixth edition. Harlow, United Kingdom: Pearson International Edition.

APPENDIXES

APPENDIX 1. Consent from W.C.E.D – South Metropole

APPENDIX 2. Consent from Ex Model C School – Principal & Governing Body

APPENDIX 3. Consent from Teachers who are to participate

APPENDIX 4. Consent from Parents regarding children who are to be observed

APPENDIX 5. Semi Structured Interview Schedules

APPENDIX 6. School Health Services- Department of National Health and Population
Development - Connors Questionnaire – Abridged

APPENDIX 7. Example of Interview with a Teacher

APPENDIX 8. Example of Interview Questions and Responses

APPENDIX 9. Dr Audrey T Wyngaard: Directorate: Research

Informed consent form in English and in the language of the potential participants.

APPENDIX 1. Consent from W.C.E.D – South Metropole

Application to the Western Cape Education Department

The Head of Education

Provincial Government of the Western Cape

Private Bag X9114

Cape Town

8000

PERMISSION TO CONDUCT A RESEARCH AT A FOUNDATION PHASE SCHOOL IN THE SOUTH METRO IN THE WESTERN CAPE.

Dear Sir/Madam

My name is Michael Symons and I wish to request permission to conduct a research study at a Foundation Phase School in the South Metro in the Western Cape.

I am a M.Ed. Student at the University of South Africa, and I am currently undertaking my research study in the field of Inclusive Education. The Title of my Research Topic: Prevalence of Attention Deficit-Hyperactivity Disorder (ADHD) among Foundation Phase children in the South Metro in the Western Cape.

The aim of this particular research study will be to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape by uncovering which criteria are used by their

teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child for a referral to parent/s, therapist or professionals.

Participants in this study would be a sample of Educators. The research will take the form of individual interviews. The interview will evolve around the topic of determining which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child resulting in a referral to parent/s, therapist or professionals.

The interviews will run for approximately 30 - 60 minutes and strict ethical guidelines will be adhered to. The actual interview will be conducted after hours at a convenient time for the interviewee. The interview will be audio taped for the verification of findings and to facilitate data analysis. The tapes will be destroyed after completion of the research. Participation in this study is voluntary, and participants have the right to withdraw at any stage of the research should they wish to do so. Names will be omitted during all discussions related to this study. The information related to the discussions will not be accessible to anyone else except the promoters of the study.

Once I have received confirmation from your office to conduct the interview, I will then contact the chosen school to get permission from the Principal as well as the Educators to continue with the interviews.

Thank you for your co-operation in this matter. My contact details are filled in below. Please do not hesitate to contact me if you need any clarity on the above research.

Yours in Education

M. Symons

Cell - 0731450066

Home - 021- 7887876

email - mikesymons@telkomsa.net (Obviously after school hours - preferably - 16:00 onwards)

APPENDIX 2. Consent from Ex Model C School – Principal & Governing Body

University of South Africa

P.O. Box 392

Pretoria

South Africa

October 2014

The School Principal

Plumstead Preparatory School

Totnes Road

Plumstead

Dear Principal

PERMISSION TO DO RESEARCH IN YOUR SCHOOL

I am an M .Ed Student at the University of South Africa, and I am currently undertaking my research study in the field of Inclusive Education. The Title of my Research Topic: Prevalence of Attention Deficit-Hyperactivity Disorder (ADHD) among Foundation Phase children in the South Metro in the Western Cape.

I am seeking your permission and support to conduct some of my research at your school. The aim of this particular research study will be to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of foundation phase children in the South Metro, Western Cape by uncovering which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child for a referral to parent/s, therapist or professionals.

Currently there is a tendency in the realm of education for problematic children to be incorrectly diagnosed most commonly as having Attention Deficit-Hyperactivity Disorder when they may simply be affective factors, another disorder or simply just misbehaviour. This is exacerbated by the fact that Attention Deficit-Hyperactivity Disorder is considered the most commonly diagnosed child disorder. It affects 3-5%

of all school age children. Attention Deficit-Hyperactivity Disorder is diagnosed three times more in boys than girls. This problem is exasperated by the fact that too many children and their parents are using Attention Deficit-Hyperactivity Disorder label as an excuse for bad behaviour.

Participants in this study would be a sample of Educators, as well as learners who have previously been identified by professionals as having Attention Deficit-Hyperactivity Disorder.

The research will take the form of individual interviews. The interview will evolve around the topic of determining which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child resulting in a referral to parent/s, therapist or professionals.

The interviews will run for approximately 30 minutes and strict ethical guidelines will be adhered to. The actual interview will be conducted after hours at a convenient time for the interviewee. The interview will be audio taped for the verification of findings and to facilitate data analysis. The tapes will be destroyed after completion of the research. Participation in this study is voluntary, and participants have the right to withdraw at any stage of the research should they wish to do so. Names will be omitted during all discussions related to this study. The information related to the discussions will not be accessible to anyone else except the promoters of the study. The research results will be made available to you on request.

I would very much appreciate your prompt and favourable response to this letter.

Yours sincerely

Mr. Michael Symons (0731450066)

I, the undersigned, hereby give permission to interview the Teachers for the purpose of the above mentioned research project.

Signature of Principal: _____

Date: _____

APPENDIX 3. Consent from participants

Covering Letter & Informed Assent Form for Educators

Dear Participant

My name is Michael Symons and I am asking permission for you to participate in this research study.

I am a M. Ed Student at the University of South Africa, and I am currently undertaking my research study in the field of Inclusive Education. The Title of my Research Topic: The Prevalence of Attention Deficit-Hyperactivity Disorder (ADHD) among Foundation Phase children in the South Metro in the Western Cape.

I am seeking your permission and support to conduct some of my research at your school. The aim of this particular research study will be to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape by uncovering which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child for a referral to parent/s, therapist or professionals.

Participants in this study would be a sample of Educators.

Data will be collected through individual interviews and observations of the learner's behaviour. The interview Questions will evolve around the topic of determining which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a children.

The interviews will run for approximately 30 minutes and strict ethical guidelines will be adhered to. The actual interview will be conducted after hours at a convenient time for the interviewee. The interview will be audio taped for the verification of findings and to facilitate data analysis. The tapes will be destroyed after completion of the research. Participation in this study is voluntary, and participants have the right to withdraw at any stage of the research should they wish to do so. Names will be omitted during all discussions related to this study. The information related to the

discussions will not be accessible to anyone else except the promoters of the study. The research results will be made available to you on request.

I guarantee that your responses will not be identified with you personally. Please be assured that all information you provide will be kept strictly confidential.

You can ask questions whenever you wish. If you want to, you may call me at 0731450066.

Please sign your name below, if you agree to be part of my study.

Thanking you for your co-operation

Yours sincerely

Michael Symons

Yes, I am willing to take part in this study. I understand that at any time I have the right to withdraw from the project.

Signed _____ Date _____

Name: _____

**APPENDIX 4. Consent from Parents regarding children who are to be observed
Covering Letter & Informed Assent Form for Parents regarding permission to
allow their child to be observed.**

I am not actually interviewing any children, but I do need to ask permission from the specific parents of the children who have previously been diagnosed as having ADHD. I will be observing the child's behaviour in the classroom as well as using the Teacher's evaluation of your child's behaviour. I will use of the Connors Form as a comparative form to compare what criteria the teacher chose, plus the severity thereof, with what criteria the researcher chose as a means of identifying a child as having of Attention Deficit-Hyperactivity Disorder.

My name is Michael Symons and I am asking permission for you to participate in this research study.

I am a M. Ed Student at the University of South Africa, and I am currently undertaking my research study in the field of Inclusive Education. The Title of my Research Topic: Prevalence of Attention Deficit-Hyperactivity Disorder (ADHD) among Foundation Phase children in the South Metro in the Western Cape.

I am seeking your permission and support to conduct some of my research at your school. The aim of this particular research study will be to investigate the prevalence of Attention Deficit-Hyperactivity Disorder within a sample of Foundation Phase children in the South Metro, Western Cape by uncovering which criteria are used by their teachers to suggest possible Attention Deficit-Hyperactivity Disorder in a child for a referral to parent/s, therapist or professionals.

Participants in this study would be a sample of Educators.

The research will take the form of individual interviews and observations of the learner's behaviour. The interview Questions will evolve around the topic of determining which criteria are used by their teachers to suggest possible Attention

Deficit-Hyperactivity Disorder in a child resulting in a referral to parent/s, therapist or professionals.

Parents/Guardian's section:

I, _____ the parent/guardian of

_____ grant permission to allow him/her to

participate in the research indicated above.

Signature: _____

Date: _____

In the event respondent decides to withdraw from the research:

The participant can at any time withdraw from the research.

Signature of the researcher _____

Date: _____

APPENDIX 5. Semi Structured Interview Schedules

Semi Structured Interview Schedule

Researcher: Michael Symons

Topic: Prevalence of Attention Deficit-Hyperactivity Disorder among Foundation Phase children in the South Metro in the Western Cape.

Date: 10 February 2014 till 27 June 2014

Time; After School Hours – 15:00 – 16:00(Monday till Friday)

Class Teacher:

Grade:

Years of Experience:

Date of Interview:

Time and Duration of Interview:

APPENDIX 6. CONNORS QUESTIONNAIRE

This is the form that the researcher used is used by the school Clinics from our Metropole South.

SCHOOL HEALTH SERVICES- Dept. National Health and Population Development.

CONNORS QUESTIONNAIRE

NAME OF LEARNER:

DATE: SCHOOL:

GRADE: TEACHER:

PARAMETRES	NOT AT ALL	SLIGHT	SUBSTANTIAL	VERY MUCH
	0	1	2	3
RESTLESS				
EXCITABLE OR IMPULSE				
DISTURBS OTHER LEARNERS				
FAILS TO FINISH THINGS HE/SHE STARTS OR HAS A SHORT ATTENTION SPAN				
DAYDREAMING				
CONSTANTLY FIDGETING				
INNATENTIVE OR EASILY DISTRACTED				
DEMANDS MUST BE MET OR EASILY FRUSTRATED				
ISOLATES HIMSELF/HERSELF FROM OTHER LEARNERS				
CRIES OFTEN AND EASILY				
MOOD CHANGES QUICKLY AND DRASTICALLY				

HAS TEMPER OUTBURSTS OR EXPLOSIVE AND UNPREDICTABLE BEHAVIOUR				
---	--	--	--	--

TEACHER'S

COMMENTS:

.....
.....

IMPROVEMENTS (IF ANY):

.....
.....

APPENDIX 7. Example of Interview with a Teacher

- 1. What motivated you to become an educator and for how many years have you been in education?**

I was motivated by a challenge to make a difference in our youth. I have been in education for 33 years

- 2. What do you understand by the term Inclusion?**

Including all learners at the same institution and implementing the same curriculum but adjusting the assessments in the main stream.

- 3. What do you understand by the term – Barriers to Learning?**

I think they impact negatively on a child's learning. It can be intrinsic or extrinsic.

- 4. What do you understand by the term Attention Deficit Hyperactivity Disorder (ADHD)?**

It is a disorder that discloses an inability to focus, short concentration span. The child shows disruptive behaviour and generally has a negative impact on the child's performance in the classroom.

- 5. What do you regard as challenges in teaching an ADHD child?**

An inability to work neatly, to work without supervision. Task avoidance and also the emotional outbursts.

- 6. What other causal factors do you consider should be taken in account when determining whether a child has ADHD or not?**

Diet, medication, domestic harmony, home structures

- 7. Do you feel that a Teacher should be part of the diagnosis of a child with ADHD?**

YES!

- 8. Who else would you include in the decision regarding the diagnosis of ADHD?**

Parents, caregivers and the school. Occupational Therapist, Speech Therapists, Psychologists

9. What characteristics do you consider important with regards to the Connors' Form when deciding whether a child has barriers to learning specifically that of ADHD?

Incomplete tasks, short attention span, disruptive, fidgeting, day dreams, unnecessary movement, walking up and down, etc.

10. What process do you follow to assess learners who are identified as having ADHD?

The processes that we refer to is the logistical aspects. After the learner has been identified that he is possibly ADHD a process is followed. The logistics for a government school is that he is referred to the SBST previously known as the ILST. A committee assists and then refers the child to the different service providers such as the OT, speech therapists, psychologists, paediatrician and parents. They are then given the parents that need the counselling. At this point an Educational psychologist will have to be called in for any further referrals. Sometimes the paediatrician is necessary if medication is needed and referrals that are much deeper than that may be referred to the SLES Component which is an Education, a task team which deals with learners with special needs. A recommendation would be made and then the child would then follow a whole process further until his intervention is in place. That is a full blown protocol that must happen in order for the appropriate placement for the appropriate strategies that will followed after the process.

11. Which strategies can be used in identifying learners who are having ADHD?

When we refer to strategies we refer to the how, of how we identify. Firstly we move to use observation. When we observe we need to have a record and evidence of what behaviour is evident. A Connors form is a once off evidence of what is actually happening at the time when the teacher is observing the child's behaviour. There is also an ongoing unit which you can use which is a line of continuum and that will give you an indication of when the behaviour is at its worst or when it subsides. There is also a baseline assessment that you can use. We can also use diagnostic assessments which are the Remedial channel that we follow. When we follow the Remedial channel, there is a myriad

of assessments that we can use such as the Schonell test, UCT has a test and that will give you basically the child's academic levels. There are different therapies, that's another strategy that we can use. These therapies are used to see if we can change behaviour without repercussions, without consequences and without medication. Nutrition therapy has been something that is being used quite often where children are given only special food, not so much sugar. There is also the Brain Gym, which is also a new buzz word, in order to calm and centre the child. There is also Co-operative Learning as a strategy. Perhaps there are emotional blockages for the child to achieve. We also then use a strategy of identifying the child's learning styles to find out whether our teaching styles are perhaps not synergising and then to find out an appropriate synergy for both teacher and learner. We can also use time as another strategy in terms of appropriate time frames, when do we do the observation, when do we use the strategy, is it before the extra murals, before work, before or after first break and those kind of things. And the other thing is the length of time and the amount of work or the amount of concentration that the child is able to exercise within a short or long period. We also use cohesive groups where we use smaller groups in order to then monitor behaviour and then lastly medication would be administered at different intervals. Maybe you can also stagger the medication over a period of time so that it doesn't get all taken at one time and then to stagger it when you think it is necessary to administer another dosage or to increase the dosage. So, those are the different strategies that you can use to identify ADHD and it is very different to the process which is merely the logistical aspect.

12. What is your opinion about how boys are misdiagnosed with ADHD?

The boy-child has often been labelled as being physically more active than his peers from the opposite sex. In a conservative society children are taught differently based on their gender. Girls often mature earlier during the ages of 6-9 years. This phenomenon translates into the classroom where teachers are often females and their life experiences with men will influence their attitude towards the boy-child.

The very active six year old boy is often sadly labelled as hyper-active. Hyperactive has become the buzz word amongst teachers.

A male's classroom management often creates problems which will negatively affect the learning environment as well as create a learning barrier for the child who needs assertive supervision and structure.

Are boys judged differently to girls?

In a recent case study, the behaviour of a six year old boy described by his teacher as "typical as that of a child who needs medication", revealed that the child suffered severe separation anxiety due to his mother being hospitalised for an extensive period. Family counselling was recommended and a home programme improved his learning and classroom behaviour. Thus I would admit that boys are often misjudged as being hyperactive- as being ADHD.

Do you believe there to be a difference between the diagnosis of a boy and the girls?

Gender bias is a very real phenomenon in our society and the school is no different. Stereo- typed mind sets are characteristic cultural backgrounds. Often boys are expected to be tough and resilient. They do not enjoy the same sympathy as girls with frail personalities.

Regarding the difference in the sex of the class teacher- does a male and female differentiate in their diagnosis?

Male teachers are often expected to treat girls with respect regardless of their manipulative traits. Female teachers are expected to display maternal qualities, but not all females can be naturally maternal. Across the gender divide there are often personality clashes. These create learning barriers and often the teacher is the learning barrier!!

Do you think it's anything to do with hormones – the boy's testosterone – often associated with aggression and the girl's – oestrogen- maternal instinct?

Definitely, Boys are naturally more aggressive by nature whereas girls generally appear more softer and nurturing – motherly instinct. Girls try to comply whereas boys just want to explore. It all boils down to the difference of maturity at a younger age in Foundation Phase girls of an equivalent age are usually far more advanced – mature than their boy counterparts.

APPENDIX 8. Examples of Interview Questions and Responses

No.	Interview Questions	Participants Responses
General	What motivated you to become an educator and for how many years have you been in Education?	<ul style="list-style-type: none"> • To make a difference in the youth • Love & passion of children • Average =15 to 20 years of experience
1	What do you understand by the term Inclusion?	<ul style="list-style-type: none"> • Mainstreaming • Same access to same education & lifelong experiences • Including all learners at the same school • Implementing the same curriculum • Adjusting assessments to be applicable for all children • All children Educable • All taught according to own abilities
2	What do you understand by the term – Barriers to Learning?	<ul style="list-style-type: none"> • Problem that prevents a child from reaching their full potential • Difficulty in understanding concepts • Includes emotional, social, physical or academic barriers • Impact negatively • Is Intrinsic or extrinsic • Include – O.T, speech, vision, auditory, intellectual, language delays

3	What do you understand by the term – Attention Deficit Hyperactivity Disorder (ADHD)?	<ul style="list-style-type: none"> • Inability to focus, poor concentration span • Disruptive behaviour • Unable to reach potential • Hyper active move all the time • Impulsive • Inappropriate to age • Under achieving
4	What do you regard as challenges in teaching an ADHD child?	<ul style="list-style-type: none"> • Inability to work, concentration & perseverance • Emotional outbursts- anger or frustration • To keep a balance – fair for all to benefit • Keep child constructively busy- movement/ duties
5	What process do you follow to assess learners who are identified as having ADHD?	<ul style="list-style-type: none"> • ILST • OT • Speech • Psychologists • Paediatrician • Parents
6	Which strategies can be used in identifying learners who are having ADHD?	<ul style="list-style-type: none"> • Observation • Assessments • Therapies • Exercises • Medication – last resort
7	What other causal factors do you consider should be taken in account when determining whether a child has ADHD or not?	<ul style="list-style-type: none"> • Diet, medication, domestic situation • Classroom environment • Teacher & teaching styles • Emotional circumstances • Family & home circumstances

8	What characteristics do you consider important with regards to the Connors Form when deciding whether a child has barriers to learning specifically that of ADHD?	<ul style="list-style-type: none"> • Incomplete tasks • Short attention span – focus short • Impulsive • Distraction • Disruptive • Fidgets • Excess movement • Aggressive
9	What criteria do you consider in differentiating between a “problem child” and a child who is not considered a problem?	<ul style="list-style-type: none"> • Problem child has learning difficulties • Disruptive child • Uncooperative • Inappropriate Behaviour • Impulsive • Shouts out • Aggressive • Hyper-active • Non problem – well behaved, respectful
10	Do you feel that a Teacher should be part of the diagnosis of a child with ADHD?	<ul style="list-style-type: none"> • Yes • Spends most of the day with the child • Able to compare siblings under similar circumstances • Behaviour & academic milestones • Behaviour at home vs. at school
11	Stereotyping Gender	<ul style="list-style-type: none"> • Labelling • Physical • Maturity • Males aggressive – non conformist • Females Conform to behaviour expected • Gender of Teachers- male – not phased • Females- obedience • Hormones

APPENDIX 9. Dr Audrey T Wynyard: Directorate: Research

Fri 2014/02/07 09:41 AM

Audrey Wynyard <Audrey.Wyngaard@westerncape.gov.za>

RE: Research approval letter

Dear Mr. Symons

The letter granting you permission to conduct research in the schools is attached.
Best wishes and success with the research.

Regards

Dr Audrey Wyngaard

Directorate Research

WCED

Golden Acre 19 th floor – room 19-03

Cape Town

Tel no 021 467 9272

e-mail: Audrey.wyngaard2@pgwc.gov.za

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Private Bag x9114, Cape Town, 8000

wced.wcape.gov.za

REFERENCE: 20140204-24153

ENQUIRIES: Dr A T Wyngaard

Mr Michael Symons
12 Admiral's Walk
Marina Da Gama
7945

Dear Mr Michael Symons

RESEARCH PROPOSAL: MISDIAGNOSIS OF ATTENTION DEFICIT-HYPERACTIVITY DISORDER AMONG FOUNDATION PHASE CHILDREN IN THE SOUTH METRO IN THE WESTERN CAPE

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **10 February 2014 till 27 June 2014**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.

Signed: Dr Audrey T Wyngaard

Directorate: Research

DATE: 07 February 2014

Confirmation of Proofreading/Editing

Dr SIRION ROBERTSON

TELEPHONE CONTACT DETAILS

046 622 3441 (Home)

046 603 8491 (Work)

078 238 8502 (Cell)

Work Address:

School of Pharmaceutical Sciences

RHODES UNIVERSITY

e-mail address:

s.robertson@ru.ac.za

6 January 2016

TO WHOM IT MAY CONCERN

This is to certify that I have edited and proofread the thesis titled: **The prevalence of attention deficit hyperactivity disorder among preparatory school children in the south metro district in the Western Cape by Michael Stafford Symons.**

I have left some minor corrections for Mr Symons to do. This is a policy of mine in editing theses, because I believe that the final onus for the quality of the submitted work remains with the candidate. I have conveyed this to Mr Symons.

SIRION ROBERTSON