

**THE RELATIONSHIP BETWEEN SYMPTOMS OF
ATTENTION-DEFICIT/HYPERACTIVITY DISORDER
AND CHILD ABUSE IN ADOLESCENTS**

by

Nkalafeng Paulina Sebopelo

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Supervisor: Prof. J.A. Meyer

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DECLARATION

I declare that the mini-dissertation hereby submitted to the University of Limpopo, for the degree of Master of Arts in Clinical Psychology, has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all the material contained herein has been duly acknowledged.

Sebopelo NP

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ABSTRACT

Background: Attention-Deficit/Hyperactivity Disorder (ADHD) is a common neurodevelopmental behavioural disorder among school-age children, which in most cases continues into adolescence and adulthood and is mainly characterized by inattentiveness, hyperactivity and impulsiveness. The aim of the study was to establish the relationship between ADHD symptoms (hyperactivity/impulsiveness and inattention) and child abuse (emotional abuse, neglect, physical abuse and sexual abuse).

Method: A total of 191 participants (without a clinical diagnosis of ADHD) participated in the study. The participants were assessed on a battery consisting of the BSSA (Barkley's Symptoms Scale for Adolescents) and CMIS (Child Maltreatment Interview Schedule). The ADHD scores on BSSA have been correlated with scores on the CMIS. The results were analysed using the Pearson's product-moment correlation to show a relationship between ADHD symptoms and a history of child abuse.

Results: A positive, but weak relationship between ADHD symptoms and all the measured forms of child abuse was indicated, with inattention symptoms showing a slightly higher relationship than the hyperactivity/impulsiveness symptoms.

Conclusion: There is a significant although weak relationship, between ADHD symptoms and all forms of child abuse in non-impaired adolescents.

Chapter 1

INTRODUCTION

1.1. Introduction

1.1.1. Attention Deficit Hyperactivity Disorder (ADHD)

ADHD is characterized by a pervasive combination of hyperactive and abnormally restlessness, impulsive and inattentive behaviour that manifest itself from an early age and it is well established at age seven (American Psychiatric Association, 1994). The child is easily distracted, misses details, forgets tasks, and frequently switches from one activity to another. The child also has difficulty focusing on one task, becomes bored with a task after only a few minutes, and fidgets and squirms in his seat. Other signs of inattentive behaviour include talking nonstop, trouble sitting still during dinner, school, and story time, impatience and interrupting conversations or other people's activities (National Institute of Mental Health, 2003).

ADHD is developmental disorder featuring maladaptive levels of inattention, excessive activity, and impulsiveness, which creates difficulties for the child's external world. Children with ADHD are characterized by failure to control their behaviour, according to the expectations of others (Barkley, 2006). ADHD is a persistent and severe impairment of psychological development resulting from a high level of impulsive, overactive and inattentive behaviour. The combination of these symptoms in children is recognized as a disorder where these behaviours are severe, developmentally inappropriate and impair the ability to function at home and also at school (Biederman & Faraone, 2005; Biederman, 2005; Swanson, Sergeant, Taylor, Sonuga-Barke, Jensen, & Cantwell, 1998).

1.1.2. Child abuse

Child abuse constitutes all forms of physical and/emotional ill treatment, sexual abuse, neglect or negligent treatment resulting in actual or potential harm to the child's health, survival, and development in the context of a relationship of responsibility, trust and power (World Health Organization, 1993). Child abuse may be sexual, physical or emotional in nature. Depending on various factors and situations, child abuse mars a child for life and may impede their progress and lifestyle. Other than these kinds, child abuse can also come out of mere neglect of the various needs of children as they grow up.

1.2. Objective and purpose of the study

The aim of the study is to explore the relationship between ADHD symptoms in adolescents and child abuse. The objective of this study therefore, is to show a relationship between the symptoms of ADHD and a history of child abuse as reported by adolescents at secondary school in the Mankweng, Limpopo Province.

The study is based on a hypothesis indicating a positive relationship between Attention-Deficit/Hyperactivity Disorder and child abuse. The study is based on findings by Briscoe-Smith and Hinshaw, (2006) who show that abused children and children with ADHD share the common features of externalizing and internalizing behaviour problems. Furthermore, child abuse is defined by inappropriate reactions on the part of adults (often parents) against children, while families of children with ADHD are often marked by dysfunctional interactional patterns. These similarities raise the question of a possible link between these two phenomena as well concerns about the differential diagnosis and treatment of each problem (Briscoe-Smith & Hinshaw, 2006).

1.3. Definition of concepts

1.3.1. ADHD: Attention Deficit Hyperactivity Disorder: a is a disorder of inattention, impulsiveness and hyperactivity that affects 6-12% of children worldwide (American Psychiatric Association, 2000).

1.3.2. Adolescent: A young person between childhood and adulthood i.e. beginning of age 12 to 20 years.

1.3.3. Comorbidity: Co-existence of more than one disorder at once, other than existing disorder.

1.3.4. Child abuse: Child abuse constitutes all forms of physical and/emotional ill treatment, sexual abuse, neglect or negligent treatment resulting in actual or potential harm to the child's health, survival, and development in the context of a relationship of responsibility, trust and power (World Health Organization, 1993).

1.3.5. Child Neglect: the failure to provide for a child in all spheres: physical and mental health, education, nutrition, shelter, and safe living conditions, in the context of resources reasonably available to the family or caretakers (World Health Organization, 1993).

1.3.6. Emotional abuse: the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so that a child can establish a stable and full range of emotional and social competencies (World Health Organization, 1993).

1.3.7. Hyperactivity: Fidgeting with hands or feet or squirming, leaving seat inappropriately, running about or climbing inappropriately, difficulty playing quietly or in quiet activities (Sadock & Sadock, 2003).

1.3.8. Impulsiveness: blurting out answers before questions are completed, difficulty awaiting turn, and interrupting or intruding on others (Sadock & Sadock, 2003).

1.3.9. Inattention: failing to attend to details or making careless mistakes in school work or other activities, difficulty in sustaining attention (Sadock & Sadock, 2003).

1.3.10. Physical abuse: act or acts that result in actual or potential physical harm (World Health Organization, 1993).

1.3.11. Sexual abuse: the involvement of someone, in this case a child or youth in sexual activity that the young person does not fully comprehend, and is unable to give informed consent to, not developmentally prepared for and violates the laws (World Health Organization, 1993).

1.4. Delineation of the study

Chapter two will focus on the nature of ADHD, the diagnostic criteria according to the DSM-IV, the symptoms, age of onset, age and gender differences, aetiology, prevalence, treatment and outcome.

Chapter three focuses on the nature of child abuse, types of child abuse, the symptoms, aetiology, prevalence, treatment and outcome.

Chapter four deals with the relationship between ADHD symptoms and vulnerability to child abuse.

Chapter five defines the research hypothesis.

Methodology used in this study will be laid out in chapter six with specific reference to the research design, the study population, and sampling method, procedure and analysis of data.

Research results will be discussed in chapter seven and chapter eight will discuss the results obtained, limitations of the study and possibilities for future research.

ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

2.1. Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD) is among the most common childhood psychiatric disorders which affects 6 -12% of school-going children (Barkley, 2006; Biederman & Faraone, 2005; Meyer, 2005; Sagvolden, Johansen, Aase, & Russell, 2005) and causes severe impairments at home and school (American Academy of Pediatrics, 2000; Asherson, Kuntsi, & Taylor, 2005; Johansen, Aase, Meyer, & Sagvolden, 2002; Taylor, Dopfner, Sergeant, Asherson, Banaschewski, Buitelaar et al., 2004). It is a major public health concern because of its increased risk of additional and serious psychopathology in adulthood, including its detrimental effects on the individual's educational, social and occupational attainments (Tannock, 2005). ADHD is regarded as a neurodevelopmental disorder, as it tends to be chronic (Schachar, Crosbie, Barr, Ornstein, Kennedy, Malone et al., 2005). The disorder involves a significant disturbance in the acquisition of basic skills, due to neurobiological factors (Asherson, Kuntsi, & Taylor, 2005; Heptinstall & Taylor, 2002).

2.2. History of ADHD

The history of ADHD can be understood by referring to its origin in childhood. Dr. Heinrich Hoffmann first described ADHD in 1845. He was a physician who wrote books on medicine and psychiatry and had interest in writing for children. One of his famous works is "The story of Fidgety Philip" which was a clear and accurate description of a little boy who had Attention-Deficit/Hyperactivity Disorder (Hoffmann, 1845; Trott, 2006). George Still (1902) and Alfred Tredgold (1908) were the first to focus serious medical

attention on the behavioural condition of children that approximates what is today known as ADHD. Still (1902), proposed a biological predisposition to this behavioural condition, suggesting that it was probably hereditary in some children and the result of pre/postnatal injury in others. Still, following the theorising of William James (1890) hypothesized that deficits in inhibitory volition, moral control, and sustained attention were casually related to each other and to the same underlying neurological deficiency.

According to Barkley (2006), another contribution made to the history of ADHD was the outbreak of encephalitis in North America in 1917-1918. Children who survived these brain infections were left with significant behavioural and cognitive sequelae. Other impairments that showed were in other cognitive abilities (including memory). These sequelae included many of the characteristics we now incorporate into the concept of ADHD. The disorder was referred to as “postencephalitic behaviour disorder”, and was clearly the result of CNS damage. Other potential causes of brain injury in children and their behavioural manifestations were also studied, and a striking similarity between the symptoms exhibited by hyperactive children and the behavioural sequelae of frontal lobe lesions on primates was recognised. Milder forms of hyperactivity, in contrast, were attributed in this era to psychological causes, such as poor child rearing practices or delinquent family environments (Barkley, 2006).

According to Barkley (2006), the concept of “brain injured child” which later evolved into the concept of “minimal brain damage” and eventually “minimal brain dysfunction” (MBD) was coined by the 1950s and 1960s. when the second edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM II) appeared, all childhood disorders were described as “reactions” and the hyperactive child syndrome became

“hyperkinetic reaction of childhood” (American Psychiatric Association, 1968). Chess, (1960), a child psychiatrist argued that the disorder was not caused by brain damage. This difference in perspective between professionals has been converging over the last decade, as evident in the similarity of the DSM-IV criteria with those of the International Classification of Diseases, 10th revision (World Health Organization, 1993).

By the 1970s, research emphasised the problems with sustained attention and impulse control in addition to hyperactivity (Douglas, 1972). Douglas (1980, 1983) who theorised that the disorder involved major deficits in (1) the investment, organisation, and maintenance of attention and effort; (2) the ability to inhibit impulsive behaviour; and (3) the ability to modulate arousal levels to meet situational demands. This emphasis on attention together with the other numerous studies of attention, impulsiveness, and other cognitive sequelae that followed (Douglas & Parry, 1983), led to renaming the disorder “attention deficit disorder” (ADD) in 1980 (DSM-III, American Psychiatric Association, 1980; Trott, 2006). In 1987, the disorder was renamed “Attention-Deficit/Hyperactivity Disorder” in DSM-III-R (American Psychiatric Association, 1987) and a single list of items incorporating all three symptoms was specified. All this led to the creation of two separate lists of items and thresholds for ADHD when the DSM-IV was published later in the decade (American Psychiatric Association, 1994).

Neurological studies were also conducted in the 1950s whereby investigators referred to ADHD children as having “hyperkinetic impulse disorder”. Laufer & Denhoff (1957) reasoned that the CNS deficit occurred in the thalamic area. This study focused on the effects of photo-metozol, and it suggested that hyperactive children had a lower threshold for stimulation in the thalamic area (Barkley, 2006).

2.3. Prevalence

2.3.1. Age and gender differences

ADHD is a prevalent behaviour problem that is particularly noticeable in school and is characterized by inattention, overactivity and impulsiveness. The prevalence of ADHD depends on the age of the child. It is estimated to occur in about 6% of school-aged children, with boys outnumbering girls roughly four to one. Boys with ADHD tend to be judged by their teachers as showing more inattention and hyperactivity in the classroom than are girls with the disorder (Hartung, Milich, Lynam, & Martin, 2002). Females with ADHD are equally impaired as males with ADHD in terms of cognitive functioning, academic problems, teasing, name calling and neurological disorders (Brown, Madam-Swain, & Baldwin, 1991; Robin, 1998).

2.3.2. Socio-economic differences

According to Biederman and Faraone (2005), studies have shown that low socio-economic status could be associated with an increased prevalence of ADHD. ADHD affects children from all social classes, although there are slightly more children with ADHD in lower SES groups than in higher groups. Such differences are best accounted for by the presence of co-occurring conduct problems in children with ADHD. Conduct problems are known to be associated with the conditions that often accompany low SES for example, family adversity and stress. ADHD has been identified in every country around the world where it has been studied (Mash & Wolfe, 2005).

2.3.3. Ethnic/Cultural/National Issues

Some of the studies using DSM criteria have found the disorder across numerous countries. It seems the behaviour pattern constituting the disorder appears to be universal.

Research indicates that ADHD is the most prevalent child psychiatric disorder also in South Africa (Meyer & Aase, 2003). In a study of minor psychiatric symptoms in rural South African secondary school pupils by means of a questionnaire and ratings scales (Peltzer, Cherian, & Cherian.L., 1999) showed that 12.6% of pupils had a possible clinically significant psychological disorder. Mako (2002), in a study conducted in Gauteng, South Africa, observed that the presence of ADHD symptoms in children who were referred to a clinic for diagnosis and treatment and those in the community did not differ significantly, except for the older girls (> 10 years of age). This shows that ADHD is not a culturally influenced disorder; rather it affects individuals across all spectrums. Margalit and Almougy (1991), shows that that the syndrome is stable across different cultures.

In cultures that value reserved and inhibited patterns of child behaviour, such as Thailand, symptoms of ADHD are less common than in US. Moreover, when ADHD symptoms occur, teachers in Thailand view them as more problematic likely due to their culture-linked values and expectations. Differences across cultures may also reflect varying cultural norms and tolerance for the symptoms of ADHD. Clearly, ADHD is a Universal phenomenon that is reported to occur more frequently in boys than in girls in all cultures (Mash & Wolfe, 2005).

2.4. ADHD in South Africa

Research has also been conducted on the African continent on ADHD (Kashala, Tylleskar, Elgen, Kayembe, & Sommerfelt, 2005; Ofovwé, Ofovwé, & Meyer, 2006). Research conducted among different language groups in the Limpopo province, South Africa shows that ADHD is also the most prevalent disorder in the country and that the

prevalence rates for ADHD subtypes are similar to western rates for both genders in all language groups (Meyer, 1998; Meyer, Eilertsen, Sundet, Tshifularo, & Sagvolden, 2004).

2.5. Description and diagnosis

ADHD symptoms are usually evident even before the onset of school but typically become more relevant once a child starts school because they are so disruptive in a structured school setting (Barkley, 2006). According to DSM-IV-TR (American Psychiatric Association, 2000) there are three patterns of behaviour that indicate ADHD namely; inattention, impulsiveness, and hyperactivity and it is generally diagnosed before the age of 7 years. There are three subtypes of ADHD recognized by professionals, namely the predominantly hyperactive-impulsive type – ADHD-HI (does not show significant inattention), the predominantly inattentive type – ADHD-PI (does not show significant hyperactive-impulsive behaviour), and the combined type – ADHD-C (displays both inattentive and hyperactive-impulsiveness) (American Psychiatric Association, 2000; Mash & Wolfe, 2005).

2.5.1. Primary symptoms of ADHD

Inattention: Children who have ADHD display difficulties in sustaining attention, distractibility, lack of persistence, and organization relative to normal children of the same age and gender. Attention is a multidimensional construct that can refer to alertness, arousal, selectivity, sustained attention, distractibility, or span of apprehension, among others (Barkley, 2006). Parents and teachers often describes these attention problems in terms such as “Doesn’t seem to listen,” “Easily distracted,” “Can’t work independently of

supervision,” “Requires more redirection,” “Shifts from one uncompleted activity to the other,” and “Confused or seems to be in a fog” (Barkley, 2006).

According to Waslick & Greenhill (2004), this dimension is more likely to reflect problems with the executive function of working memory than poor attention per se (Barkley, 1997). This inattentive behaviour distinguishes these children from those with learning disabilities (Barkley, 2006), or other psychiatric disorders (Swaab-Barneveld, de Sonnevile, Cohen-Kettenis, Gielen, Buitelaar, & Van Engeland, 2000) and does not appear to be a function of other disorders often comorbid with ADHD (anxiety, depression, or oppositional and conduct problems) (Murphy, Barkley, & Bush, 2001; Seidman, Biederman, Faraone, Milberger, Norman, Seiverd et al., 1995). According to Biederman, Mick, and Faraone (2000), this dimension is the most difficult to diagnose and it reduces the quality of life while it endures the longest as compared to the other major symptoms.

Impulsiveness or behaviour disinhibition: ADHD is associated with a deficiency in inhibiting behaviour in response to situational demands, or what may be called impulsiveness, again relative to others of the same mental age and gender (Barkley, 2006). Forms of impulsiveness often associated with under control of behaviour or the inability to delay a response or defer gratification or to inhibit dominant or proponent responses are the ones most frequently identified in children having ADHD (Geurts, Verte, Oosterlaan, Roeyers, & Sergeant, 2005). These children are often noted to respond quickly to situations without waiting for instructions to be completed or adequately doing what is required in the setting. Careless errors are often the results and may also fail to consider the potentially negative, destructive, or even dangerous consequences that may be associated with the particular situations or behaviours. Thus, they seem to engage in frequent, unnecessary risk

taking. Accidental poisoning and injuries are not uncommon, and ADHD children may carelessly damage or destroy others' property considerably more frequently than do normal children. When faced with tasks or situations in which they are encouraged to delay seeking gratification and to work toward a long-term goal and larger reward, they often opt for the immediate, smaller reward that requires less work to achieve (Barkley, 2006).

Very often they say things indiscreetly without regard for the feelings of others or for the social consequences to themselves. Blurting out answers to questions prematurely and interrupting the conversations of others are commonplace. The layman's impression of these children is often one of poor self-control, irresponsibility, immaturity or childishness, laziness, and outright rudeness. In other words these children simply behave like children younger than their chronological age (Barkley, 2006).

Hyperactivity: The third primary characteristic of children and adolescents with ADHD is their excessive or developmentally inappropriate levels of activity, whether motor or vocal, fidgeting, and generally unnecessary gross bodily movements are common (Biederman, 2005). Those movements are often irrelevant to the task or situation, many times they are purposeless (Barkley, 2006). Parents often describe these children as "always up and on the go," "acts as if driven by a motor," "climbs excessively," "can't sit still," "talks excessively," "often hums or makes odd noises," and is "squirmy." When observations of such children at school or while working on independent tasks is made, they are often found out of their seats, moving about the class without permission, restlessly moving their arms and legs while working, playing with objects not related to the task, talking out of turn to others, and making unusual vocal noises. Severe hyperactivity could be seen as a strong predictor of poor psychosocial adjustment (Taylor et al., 2004).

Although not one of the listed criteria in DSM-IV, variability in behaviour unpredictability/intra-individual variability could be a key characteristic of an endophenotype of ADHD (Aase, Meyer, & Sagvolden, 2006). ADHD-related variability could be observed at the behavioural level. Its uniqueness to ADHD, whether it is a random or dynamic-periodic phenomenon, whether it varies dynamically as a function of context, or whether it reflects processes causal to ADHD are some of the questions raised (Castellanos, Sonuga-Barke, Scheres, Di, Hyde, & Walters, 2005). Some variability may be attributed to deficient acquisition of reinforced behaviour combined with deficient extinction of non-reinforced behaviour causing shorter and less predictable behavioural sequences. Hence the dynamic developmental theory suggests that the ADHD-related variability could not be a random phenomenon but could be predicted in the combined and hyperactive/impulsive subtypes (Sagvolden et al., 2005).

2.5.2. Diagnostic criteria

At the moment, the primary characteristics of ADHD and the diagnostic criteria officially developed for clinical use are set forth in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994), which is primarily used in the United States. It is similar, though not identical to, the definition for the disorder in the tenth edition of *International Classification of Diseases* (World Health Organization, 1993), which is used mainly in Europe. The differences manifest in the ways that the symptoms are weighted and combined into categories.

The ICD-10 diagnostic of hyperkinetic disorder is the narrower category, and it appears that nearly all cases of hyperkinetic disorder could be included within ADHD. The additional criteria of ICD-10 are that all three problems of attention, hyperactivity and

impulsiveness should be present; that more stringent criteria for pervasiveness across situations are met; and that the presence of another disorder such as anxiety state is in itself an exclusion criterion. The expectation is that most cases will have a single diagnosis (Biederman & Faraone, 2005).

2.5.3. DSM-IV Criteria for ADHD

1. Six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

- a. Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.
- b. Often has difficulty sustaining attention in tasks or play activities.
- c. Often does not seem to listen when spoken to directly.
- d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the work place (not due to oppositional behaviour or failure to understand instructions).
- e. Often has difficulty organizing tasks and activities.
- f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental efforts (such as schoolwork or homework).
- g. Often loses things necessary for the tasks or activities (e.g., toys, school assignments, pencil, books, or tools).
- h. Is often easily distracted by extraneous stimuli.

- i. Is often forgetful in daily activities.
2. Six (or more) of the following symptoms of hyperactivity/impulsiveness have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

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

Impulsiveness

- g. often blurts out answers before questions have been completed.
 - h. often has difficulty awaiting turn.
 - i. often interrupts or intrudes on others (e.g., butts in to conversations or games).
- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
- C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Three subtypes

In DSM-IV-TR (American Psychiatric Association, 2000) there are three patterns of behaviour that indicate ADHD.

Attention-Deficit/Hyperactivity Disorder, Combined Type: if both Criterion A1 and A2 are met for the past six months.

Attention-Deficit/Hyperactivity Disorder, Predominantly Inattention Type: if Criterion A1 is met but Criterion A2 is not met for the past six months.

Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type: if Criterion A2 is met but Criterion A1 is not met for the past six months (American Psychiatric Association, 2000).

2.5.4. Age of onset

The criteria stipulate that individuals have their symptoms of ADHD for at least 6 months that these symptoms are to a degree that is developmentally deviant, and that the symptoms have developed by 7 years of age. From the Inattention item list, six of nine items must be endorsed as developmentally inappropriate. From the hyperactivity-impulsive item lists, six out of nine items, in total, must be endorsed as deviant. The type

of ADHD to be diagnosed depends on whether criteria are met for either or both symptom list: Predominantly Inattentive, Predominantly Hyperactive-Impulsive, and Combined Type (American Psychiatric Association, 2000; Barkley, 2006).

2.6. Situational and contextual factors

The symptoms comprising ADHD are greatly affected in their level of severity by a variety of situational and task related factors. The performance of ADHD children is worse later in the day than earlier, in greater task complexity, when restraint is demanded, under low levels of stimulation, and when adult supervision during task performance is absent. These factors mainly apply to task performance. Fluctuations in the severity of ADHD symptoms have also been documented across variety of school contexts (Barkley, 2003).

2.7. Aetiology

There are many different factors that influence the development of ADHD. According to (Bradley & Golden, 2001), there are various factors contributing to the aetiology or cause of ADHD.

2.7.1. Psychosocial Factors

Children in institutions are frequently overactive and have poor attention spans. These signs result from prolonged emotional deprivation and they disappear when deprivational factors are removed, such as through adoption or placement in a foster home. Stressful psychic events, disruption of family equilibrium and other anxiety including factors contribute to the initiation or perpetuation of ADHD.

ADHD thus far has been linked to various factors in the family environment that correlate significantly with childhood mental disturbances (Biederman & Faraone, 2005). Rutter's well-known studies of Isle of Wight and the inner borough of London revealed six

risk factors in the family environment that correlated significantly with childhood mental disturbances: severe marital discord, low social class, large family size, paternal criminality, maternal mental disorder and foster placement. Biederman and colleagues further identified a positive association between Rutter's index of adversity and ADHD, measures of ADHD-associated psychopathology, impaired cognition, and psychosocial dysfunction (Biederman & Faraone, 2005; Rutter, Cox, Tupling, Berger, & Yule, 1975) led to ADHD.

2.7.2. Biological factors

Understanding the genetic contribution of ADHD was made possible by the large amount of research into the similarities of the symptoms of ADHD observed in families, adopted children and monozygotic (MZ) versus dizygotic (DZ) twins. Within an immediate family, an ADHD affected child will share the symptoms in the following order: 32% with another sibling, 25-30% with the father and 15-20% with the mother (Bradley & Golden, 2001). Evidence for genetic basis for ADHD includes greater concordance in monozygotic than in dizygotic twins. Also siblings of hyperactive children have about twice the risk of having the disorder as those in the general population for example one sibling may have predominantly inattention symptoms and others may have predominantly hyperactivity symptoms. Biological parents of children with the disorder have a higher risk for ADHD than adoptive parents (Coolidge, Thede, & Young, 2002; Kaplan & Sadock, 1998). Inheritance also indicates some possibilities. ADHD is a condition for which high rates of heritability and evidence of neurobiological underpinnings strongly suggest neurodevelopmental origins. It indicates that parenting is not likely to be a primary cause of ADHD. In addition, given the genetic underpinnings of many cases of ADHD, biological

parents of children with ADHD are likely to show impulse control and attentional problems themselves, possibly increasing the likelihood of abusive behaviour (Briscoe-Smith & Hinshaw, 2006).

2.7.3. Genetics

There is research evidence suggesting that ADHD is highly hereditary in nature, making heredity one of the most well- substantiated aetiologies for ADHD (Biederman, Faraone & Monuteaux, 2002; Taylor et al., 2004). Research shows that between 10-35% of the immediate family members of children with ADHD are also likely to have the disorder with the risk to siblings of the ADHD children being approximately 32% that if a parent has ADHD; the risk to the offspring is 57%. Thus, ADHD clusters among biological relatives of children or adults with the disorder, strongly implying a hereditary basis to this condition (Barkley, 1998).

ADHD's high heritability nature could be resulting from multiple genes with small effect size rather than few genes of major effect. Molecular genetic research can identify allelic variation of specific genes that are functionally associated with ADHD, and dopamine genes have been the initial candidates based on the size of action of the stimulant drugs (Swanson, Flodman, Kennedy, Spence, Moyzis, Schuck, et al., 2000).

Various studies have shown that dopamine is elevated in the cerebrum of adults and children with ADHD (Madras, Miller, & Fischman, 2002; Seeman & Madras, 2002). Two candidate dopamine genes have been investigated and found to be involved in ADHD: dopamine transporter (DAT1) and the dopamine receptor D4 (DRD4) gene. DRD4 is highly expressed in the frontal cortex, the amygdale, the hippocampus, the hypothalamus, and the mesencephalon, and to a lesser extend in the globus pallidus and the substantia

nigra pars reticulata. The transporter sequesters extracellular dopamine into neurons, is an important regulator of extracellular dopamine and is a principal target of standard anti-hyperactivity medications such as methylphenidate (Seeman & Madras, 1998; Volkow, Wang, Fowler, Gatley, Logan, Ding, Hitzemann, & Pappas, 1998). Elevated dopamine transporter densities, which were detected in a living brain of ADHD, appear to be unique to ADHD (Madras, Miller, & Fischman, 2002).

Other researchers have shown a possible link between genes coding for dopamine receptors and ADHD (Sagvolden et al., 2005). Variations in gene for dopamine receptors 4 (DRD4 7-repeat allele and 5 (DRD5 148 bp- allele), and the dopamine transporter (DAT1 10-repeat allele) were all associated with ADHD (Curran, Mill, Tahir, Kent, Richards, Gould et al., 2001). The 10- repeat allele of DAT1 is said to be associated with an increased expression of the transporter (Curran, Mill, Sham, Rijdsdijk, Marusic, Taylor et al., 2001), while the 7-repeat allele of DRD4 encodes a receptor that is subsensitive to dopamine (Taylor, Dopfner, Sergeant, Asherson, Banaschewski, Buitelaar et al., 2004).

2.7.4. Neuroanatomy of ADHD

Structural studies in ADHD continues to mount that ADHD is associated with structural/functional differences from normal in the frontal lobes, basal ganglia, and cerebellum, and possibly anterior cingulate (Barkly, 2006; Castellanos, 2002; Sowell, Thopson, Welcome, Henkenius, Toga, & Peterson, 2003). Frontal lobes and basal ganglia are brain regions found to be smaller in ADHD groups compared to normal groups. Children with ADHD were found to have smaller brain volumes in anterior superior regions (i.e. posterior prefrontal, motor association, and mid-anterior cingulate) and anterior inferior regions (i.e. basal ganglia), and these abnormalities implicate the

neuroanatomical networks of executive control and alerting (Durstun, Hulshoff Poll, Schnack, Buitelaar, Steenhuis, Minderaa, Kahn, & van Engeland, 2004; Hill, Yeo, Campbell, Hart, Vigil, & Brooks, 2003).

Others hold the view that the right anterior frontal, caudate, and globus pallidus regions resulting in smaller asymmetris in these areas in the ADHD group were associated with performance deficits on neuropsychological tasks (Castellanos, Giedd, Mash, Hamburger, Vaituzis, Dickstein, et al., 1996, Hill, Yeo, Campbell, Hart, Vigil, & Brooks, 2003). Some studies focused on functionally significant subregions of the basal ganglia (i.e. caudate, globus pallidus, and putamen). Damage to these areas has been related to ADHD aetiology and vulnerability to perinatal hypoxic complications. The striatum area has been coined to be one of the richest source of dopaminergic synapses and stimulants medications acts on it (Siedman, Valera, & Makris, 2005).

Other than the basal ganglia and the prefrontal cortex, the cerebellum is also associated with executive functions. It has been reported that the cerebellar volume was significantly smaller in ADHD patients than in controls (Castellanos, Giedd, Berquin, Walter, Sharp, Tran, et al., 2001; Durstun, Hulshoff Poll, Schnack, Buitelaar, Steenhuis, Minderaa, et al., 2004). Neuroanatomical analyses were also conducted on the corpus callosum and it was found that it was smaller in children with ADHD than in control children. According to research conducted by Hill, Yeo, Campbell, Hart, Vigil, & Brooks (2003), the area measurements of the genu, splenium and the total corpus callosum were similar to those obtained from other studies. The smaller total and splenium areas were observed in ADHD groups. Past-hoc results demonstrated smaller genu in ADHD boys than in controls.

2.7.5. Neurochemical theories

Imbalance in the dopaminergic and noradrenergic systems seem to underlie the core symptoms that form the basis for this disorder. Different abnormalities might exist in two dopamine regions: under-activity in a cortical region (i.e. anterior cingulate), resulting in cognitive deficits and overactivity in a sub cortical region (i.e. caudate nucleus), which results in motor excesses. The modification of the noradrenergic theory proposes that two abnormalities may exist in noradrenergic regions: underactivity in a subcortical region (i.e. dorsolateral prefrontal), which results in primary memory deficits and overactivity in a subcortical region (i.e. locus coeruleus), which results in overarousal (Arnsten, Steere, & Hunt, 1996; Biederman, 2005).

Genetic polymorphisms in the dopamine receptor may reduce dopamine activity and change in normal development of the meso-cortical and nigrostriatal dopamine systems that modulate activity in these networks. Investigations of the neuroanatomical distribution of receptor types have shown that relative to D1 and D2 receptors, D3 and D4 receptors are sparse but are localised in the meso-cortico-limbic dopamine pathway (Sonuga-Barke, 2002; Swanson, Castellanos, Murias, LaHoste, & Kennedy, 1998).

According to Quin, Wang, Zhou, Li, Wang, Glatt, and Faraone (2003), Catechol-O-methyl transferase (COMT) may also be involved in ADHD gender difference. It has been indicated that the dopamine systems could also be linked to the serotonergic (5-HT) and the noradrenergic (NE) neuromodulator systems. The relationship between norepinephrine and ADHD has been found to be significantly increased in ADHD children with reading disorders and other cognitive disabilities (Hawi, Lowe, Kirley, Gruenhage, Northen, Greenwood, Kelsoe, Fitzgerald & Gill, 2003). Serotonin has been connected to poor

impulse control and aggressive behaviour (Cadoret, Langbehn, Caspers, Toughton, Yucuis, Sandhu, & Philibert, 2003). It could be said that norepinephrine and serotonin imbalances contributes to the dopaminergic imbalance which underlies the aetiology of ADHD.

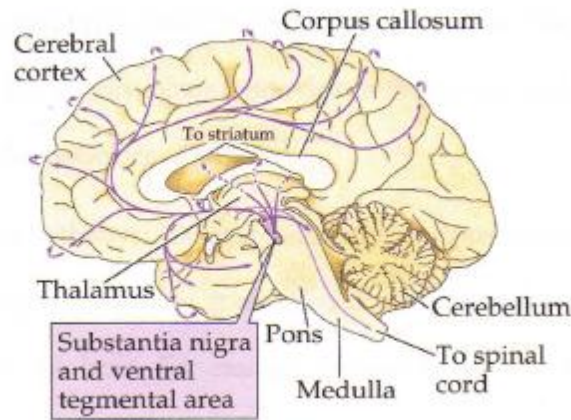
2.7.5.1. The role of dopamine in ADHD

Castellanos (1999) indicates that an imbalance of certain chemical compounds in the brain plays an important role in ADHD. ADHD is associated with changes in dopamine functioning, which may interfere with the adolescent's ability to focus, sustain attention or with memory formation and retrieval (Johansen et al., 2002; Sagvolden et al., 2005).

Dopamine is a brain chemical or neurotransmitter involved in inhibiting the activity of other cells in the brain. The chemical is known to be involved in motivation and reinforcing behaviour; also it is most particularly in teens (Giedd, Molloy, Castellanos, Jeffries, Blumenthal, Neale et al., 2004).

Dopamine is found richly in the areas of the brain known as orbital frontal regions, and its many connections through pathways of nerve fibres into a structure known as the caudate nucleus including the striatum, which itself connects further back into a deeper area of the brain called limbic system. These brain areas are those that help to inhibit behaviour, sustain attention, and inhibit out responses (Castellanos, 1997-see Figure 2.1).

Figure 2.1 Dopamine pathways in the brain (Purves et al., 2001)



These findings are very consistent with many scientific views that a problem with inhibition or self-control is the hallmark of ADHD, and that this arises from a lower level of activity in the regions of the brain responsible for these human abilities (Barkley, 2006; Johansen et al., 2002; Sagvolden & Sergeant, 1998; Sagvolden et al., 2005).

Behaviour explained by dysfunction dopamine systems

The dopaminergic system is divided into three branches: the meso-limbic, the meso-cortical and nigro-striatal, which are responsible in the transmission of dopamine (Johansen et al., 2002; Sagvolden, Aase, Johansen, & Russell, 2005). If dopamine transmission in the branches becomes inhibited, it may affect other neurotransmitter systems and behaviour that is dependent on these systems will also be affected.

Meso-limbic system

When dopamine transmission in this system is dysfunctional it affects both the reinforced and extinction signals (Douglas & Parry, 1983; Douglas & Parry, 1994). A dysfunctional meso-limbo-cortical dopamine branch is also found to be having impact on

the behavioural level, i.e. in giving rise to deficient sustained attention, hyperactivity, increased behavioural variability, and impulsiveness (Johansen et al., 2002; Sagvolden et al., 2005).

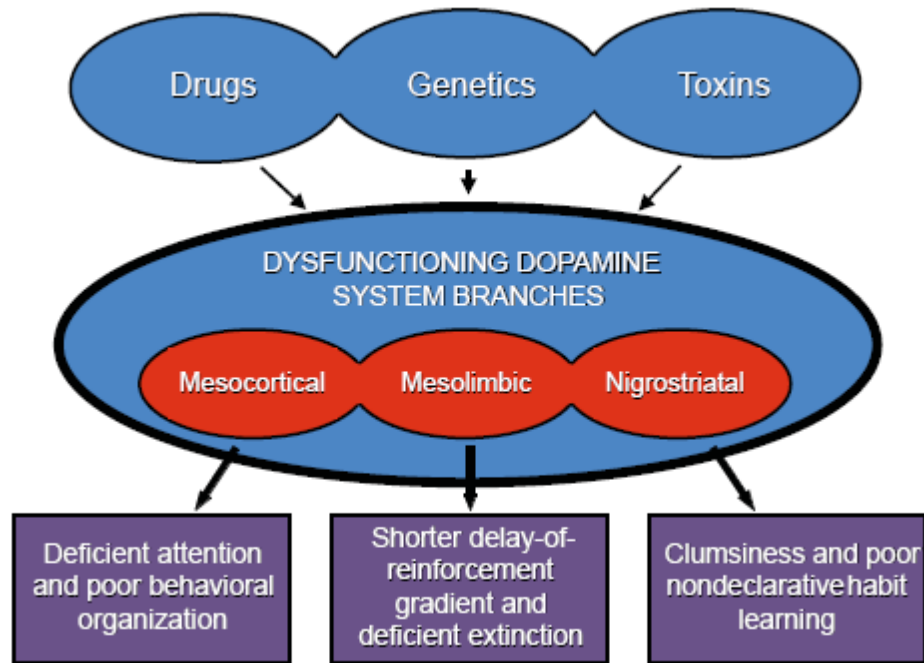
The nigro-striatal dopamine branch

Several motor functions exist in ADHD children such as poor motor control (clumsiness, longer reaction time, poor response timing, abnormal control of eye saccades, poor handwriting, poor correlation of the activity) of different body parts (Gillberg & Kadesjo, 2003; Meyer & Sagvolden, 2006; Sergeant, Piek, & Oosterlaan, 2006). These problems are now attributed to impaired motor function with dopamine dysfunction in the nigro-striatum (Fliers, Rommelse, Vermeulen, Altink, Buschgens, Faraone et al., 2008).

Meso-cortical dopamine branch

Changes in the structure of the right frontal cortex have been noticed in ADHD children (Oades, 1998; Solanto, 1998). This area is sensitive to dopamine, which comes from the ventral tegmental area. Thus children with ADHD can be cognitively impulsive with a lack planning, organisation and failure to remember important things. All these occur due to delayed reinforcement resulting from a dysfunctional meso-cortical dopamine branch. Because of their impulsiveness these children are inclined to act without forethought. According to Johansen and colleagues (2002), factors such as genetic transmission, environmental pollutants, or drug abuse may lead to a dysfunctional dopamine system (see Figure 2.2).

Figure 2.2 The neurobiological theory of Sagvolden et al. (Johansen et al, 2002)



Altered Reinforcement Processes

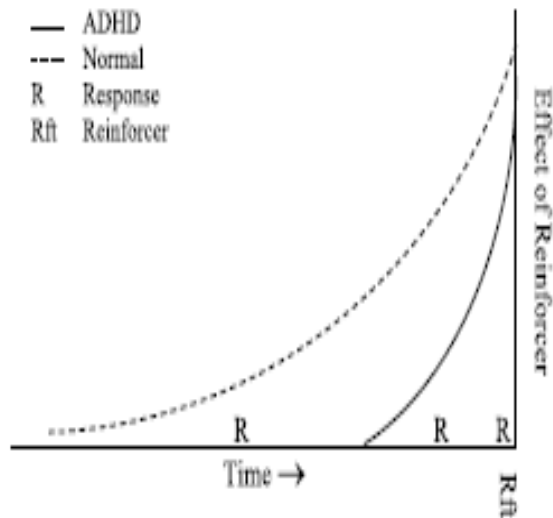
Individuals with ADHD need more frequent reinforcement (Aase, Meyer, & Sagvolden, 2006; Johansen et al., 2002; Sagvolden et al., 2005). Clinical observations indicated that individuals with ADHD have a “motivation” problem, therefore, stronger and more salient reinforcement will be essential to control their behaviour (Kollins, Lane, & Shapiro, 1997; Luman, Oosterlaan, & Sergeant, 2005). Reinforcement does reduce impulsiveness in the ADHD individual, as these individuals are not always cognitively impulsive as they manage to plan ahead, organise themselves and remember important matters (Douglas, 1999).

Impaired executive functions are usually associated with frontal dysfunctions (Denckla, 1996). There are also other neuromodulators affecting the frontal lobe activity and thus imbalances in more of these systems will impact on problems with organising and

controlling own behaviour (Rapport, VanVoorhis, Tzelepis, & Friedman, 2001). Motor impulsiveness is predominant in infants and young toddlers, while cognitive impulsiveness is more prevalent in older children and adolescents. This implies that ADHD impulsiveness can be understood as a maturational lag (Johansen et al., 2002; Sagvolden et al., 2005).

Sagvolden and colleagues (2005) and (Sonuga-Barke, 2002) argue that the key symptoms of ADHD can be viewed as a result of altered reinforcement mechanisms and a shorter delay of reinforcement gradient (see figure 2.3).

Figure 2.3 Reinforcement gradient (Sagvolden et al., 2005).



Studies have shown that children with ADHD need an increased release of dopamine for responses to occur. Thus, such children require stronger reinforcers to control their behaviours than normal children (Aase et al., 2006b; Johansen et al., 2002; Sagvolden et al., 2005).

Altered Extinction Process

In ADHD children and adolescents, hyperactivity continues to occur as a response without a specific reinforcer or when extinction as a result of withdrawing a reinforcer has occurred (Sagvolden, Aase, Zeiner, & Berger, 1998; Sleator & Ullman, 1981). Overactivity in ADHD patients is seen to be due to lack of extinction of previous behaviours and happens in the presence of scheduled and unscheduled reinforcers, with excess motor activity without reinforcers (Sagvolden, 1999). The behaviour of individuals with ADHD is variable depending on situations as compared to non-ADHD individuals, and this is also attributed to delayed reinforcement and failing extinction (Aase & Sagvolden, 2005; Aase et al., 2006; Castellanos, Sonuga-Barke, Scheres, Di Martino, Hyde, & Walters, 2005; Mook, Jeffrey, & Neuringer, 1993; Oosterlaan & Sergeant, 1998). These individuals have difficulty in withholding responses as compared to their counterparts without the disorder. Their behaviour can be clinically observed when administering tests such as the Wisconsin Card Sorting test, Go Stop tasks and other tests which examine their driving ability. Individual's behaviour in this regard can be seen as driven or being controlled (Lezak, Howieson, & Loring, 2004).

2.7.6. Environmental factors

According to Bradley and Golden (2001), genetic factors contribute about 30-40% in ADHD manifestation whereas 60% is due to environmental factors. Certain environmental factors may affect the child before, during and after pregnancy.

Prenatal Smoking: Studies have shown a possible correlation between the use of cigarettes and alcohol during pregnancy and risk for ADHD in the offspring of that pregnancy. As a precaution, it is best during pregnancy to refrain from both cigarette and

alcohol use (Lindblad & Hjern, 2010; Mick, Biederman, Faraone, Sayer, & Kleinman, 2002; Thapar, Fowler, Rice, Scourfield, van den, Thomas et al., 2003).

Exposure to toxic agents: Another environmental agent that may be associated with a higher risk of ADHD is high levels of lead in the bodies of young preschool children. Since lead is no longer allowed in paint and is usually found only in older buildings, Exposure to toxic levels is not as prevalent as it once was. Children who live in old, buildings in which lead still exists in the plumbing or in lead paint that has been painted over may be at risk (Biederman, Faraone, Keenan, Knee, & Tsuang, 1990).

Low birth weight: It has been linked with elevated rates of ADHD in children (Biederman & Faraone, 2005). Rates of ADHD in children of low birth weight (< 2000 grams) was found to be significantly higher than in children of normal birth weight with of low birth weight children being found to develop ADHD (Espírito Santo, Portuguese, & Nunes, 2009). It was found that the children who later developed ADHD were those who showed more extensive signs of hypoxia and ischemia (Bradley & Golden, 2001).

2.8. Comorbidity

Studies have documented high rates of comorbidity between ADHD and other disruptive behaviour disorders, as many as one third of children with ADHD have one or more coexisting conditions. The most common of these are behavioural problems, anxiety, depression, and learning and language disabilities. Prevalence rates reported across studies of 30-50% for Oppositional Defiant Disorder (ODD), 25% for comorbid anxiety, 15-75% for mood disorders, are elevated compared to normal control groups (Solanto, 2002). Comorbidity figures, emerging from a large, multisided study of 579 children with ADHD

and based on parent DISC interviews are: ODD, 14%; anxiety disorder (excluding simple phobia), 35% (MTA-Cooperative Group, 1999; Solanto, 2002).

2.8.1. Conduct disorder

Conduct Disorder is explained as an enduring set of behaviours characterized by aggression and violation of the rights of others (Sadock & Sadock, 2003). About 20 to 40 percent of ADHD children may eventually develop Conduct Disorder (CD), a more serious pattern of antisocial behaviour and as many as one-third to one-half of all children with ADHD - mostly boys - have another condition, known as Oppositional Defiant Disorder (ODD). These children frequently lie or steal, fight with, or bully others, and are at a real risk of getting into trouble at school or with the police. They violate the basic rights of other people, are aggressive toward people and/or animals, destroy property, break into people's homes, commit thefts, carry or use weapons, or engage in vandalism. These children or teens are at a greater risk for substance use experimentation, and later dependence and abuse. By adulthood, up to 26% may continue to have CD, while 12-21% will qualify for a diagnosis of antisocial personality disorder (Biederman, Faraone, & Lapey, 1992; Rasmussen & Gillberg, 2000). Studies indicate a shared or common genetic contribution to the disorders, particularly between ADHD and ODD (Coolidge, Thede, & Young, 2000; Silberg, Rutter, Meyer, Maes, Hewitt, Simonoff et al., 1996).

2.8.2. Anxiety and Mood disorders

Some children with ADHD often have co-occurring anxiety or depression. The ratio of having mood disorders such as depression, multiple anxiety (31%) and substance use (11.5%), given the presence of ADHD is 57% (Biederman, 2005; Daley, 2006). If the anxiety or depression is recognized and treated, the child will be better able to handle the

problems that accompany ADHD. Conversely, effective treatment of ADHD can have a positive impact on anxiety as the child is better able to master academic tasks (Freitag, Hanig, Palmason, Meyer, Wust, & Seitz, 2009).

2.8.3. Learning Disabilities.

Many children with ADHD-approximately 20 to 30 percent-also have a specific learning disability (LD). Language milestones are achieved later than normal, expressive language is unduly simple, sensory motor co-ordination is often impaired, handwriting is poor, and reading ability is behind that expected for their chronological age (Barkley, 2006a). In preschool years, these disabilities include difficulty in understanding certain sounds or words and/or difficulty in expressing oneself in words. In school age children, reading or spelling disabilities, writing disorders and arithmetic disorders may appear. A type of reading disorder, dyslexia, is quite widespread. Reading disabilities affect up to 8 percent of elementary school children (Bental & Tirosh, 2007).

2.8.4. Tourette Syndrome

A very small proportion of people with ADHD have a neurological disorder called Tourette syndrome. People with Tourette syndrome have various nervous tics and repetitive mannerisms, such as eye blinks, facial twitches, or grimacing. Others may clear their throats frequently, snort, sniff, or bark out words. ADHD takes a heavy toll from the onset, with a negative effect on peer acceptance, school performance, and self esteem. Increased irritability and rage attacks and an increased vulnerability for drug abuse, depression, and anti-social behaviour are also not uncommon among patients with Tourette syndrome and ADHD (Leckman, 2002). These behaviours can be controlled with medication. While very few children have this syndrome, many of the cases of Tourette

syndrome have associated ADHD. In such cases, both disorders often require treatment that may include medications (National Institute of Mental Health, 2002).

2.8.5. Pervasive developmental disorders

Clinically, children with autism often show hyperactive behaviour, but autistic symptoms are sometimes seen in the hyperactive. Children with hyperkinetic disorder and an autistic type of social impairment will sometimes show a partial response to stimulants. In some children, stimulants are a good response to worsening of withdrawal and manneristic behaviour and in others with classically autistic behaviour, stimulants are of little value and may be counter-productive (Taylor et al., 2004).

2.9. Associated developmental and social problems

2.9.1. Motor in-coordination

Children with ADHD may have poor motor coordination or developmental coordination disorder (Barkley, DuPaul, & McMurray, 1990; Kadesjo & Gillberg, 2001; Meyer & Sagvolden, 2006), especially seen as poor handwriting, clumsiness, poor performance in sports and marked delays in achieving motor milestones. Neurological examination for “soft signs” related to motor coordination and motor overflow movement find children with ADHD to demonstrate more such signs (as well as generally sluggish gross motor movement) than control children, including those with “pure” learning disorders (Sergeant et al., 2006).

2.9.2. Impaired academic performance

The majority of children with ADHD have difficulties with school performance, most often underproductivity (Daley, 2006). According to (Saunders & Chambers, 1996), the impact of ADHD is evident both educationally and socially in the form of academic

underachievement, peer rejection and difficulty conforming to rules during schooling years (Mash & Wolfe, 2005). The symptoms include, short attention span, poor organisational skills, poor sequential memory, fine and gross motor skills deficits, and unproductive cognitive styles (Zentall, 1993). ADHD children are likely to experience problems with reading, spelling and written language. During adolescence one third will not finish high school and only a minority attempt tertiary education (Pastor & Reuben, 2008). It is clear that both ADHD and reading disabilities co-occur (Willcutt, Pennington, Olson, & DeFries, 2007).

2.9.3. Reduced intelligence

Children with ADHD symptoms show deficits in intelligence (Barkley, 2006). These children often have lower scores on intelligence tests than control groups used in the same studies, particularly in verbal intelligence. Differences in IQ have also been recorded, between hyperactive boys and their normal siblings (Halperin & Gittelman, 1982; Rabiner, 2002).

2.9.4. Social problems

ADHD is classified in the DSM-IV as an “attention deficit and disruptive behaviour disorder” because of the significant difficulties it creates in social conduct and general social adjustment (Barkley, 2003). According to Hay and Levy (1996), adults with ADHD also have a high co-morbidity rate of CD, depression, and anxiety disorders. ADHD has also been related to attempted and successful suicide (Biederman, Ball, Monuteaux, Mick, Spencer, McCreary et al., 2008), substance abuse (Biederman, Petty, Wilens, Fraire, Purcell, Mick et al., 2008), traffic offences and speeding (Sobanski, Sabljic, Alm, Skopp, Kettler, Mattern et al., 2008), court involvement related to theft and aggression behaviour

(Waschbusch & Willoughby, 2008), poor self-concept and low self-esteem (Edbom, Lichtenstein, Granlund, & Larsson, 2006; Hoza, Gerdes, Hinshaw, Arnold, Pelham, Molina et al., 2004) . In addition, ADHD children tend to elicit negative, harsh, and conflicting interactions from peers, parents, and teachers (Hoza, 2007).

The ongoing symptoms of ADHD are likely to impact on family in the form of stressed parenting and dysfunctional families (Coghill, Soutullo, d'Aubuisson, Preuss, Lindback, Silverberg et al., 2008). ADHD adults are likely to be unemployed and when employed are rated by employers as being less independent, less capable of completing set tasks, less amenable to co-workers and more likely to lose their job (Nadeau, 2005), to change jobs more frequently (Biederman & Faraone, 2006), to have impaired social relations and suffer from depression, low self-concept, substance abuse and personality disorders (Mash & Wolfe, 2005).

2.10. Treatment

Physicians often recommend that ADHD be treated symptomatically with stimulants, special education and counselling. A multimodal treatment approach such as positive behaviour intervention and psychological strategies have also been seen to be playing an important role (Aslop, 2003). Treating ADHD is essential in order to decrease symptoms, enhance functionality, and improve well-being for the individual and his/her close contacts (Miller, Johnston, Klassen, Fine, & Papsdorf, 2005).

2.10.1. Psychopharmacological treatment

The medications that seem to be the most effective are a class of drugs known as stimulants. The stimulant medication acts by increasing the dopamine availability at central synapse (Zuddas, Ancilletta, Muglia, & Cianchetti, 2000). Psychostimulant drugs

which include D-amphetamine (Dexedrine®), methylphenidate (Ritalin®) and D-, L-amphetamine (Adderall®) have shown to significantly improve the core symptoms of inattentiveness, impulsiveness and hyperactivity in ADHD (Elia, Ambrosini, & Rapoport, 1999; Gillberg, Gillberg, Rasmussen, Kadesjo, Soderstrom, Rastam et al., 2004).

Methylphenidate is said to be structurally and pharmacologically similar to amphetamines, but does not release dopamine in the absence of nerve impulses. It is an effective blocker of catecholamine reuptake, with stronger effects on dopamine than on noradrenaline. The stimulant drugs come in long and short-term forms. The long acting drugs includes: Concerta® and Ritalin LA®. The newer sustained-release stimulants such Ritalin SR® can be taken before school and are long lasting so that the child does not need to go the school nurse or teacher everyday for a pill (Abikoff, Hechtman, Klein, Weiss, Fleiss, Etcovitch et al., 2004; Elia et al., 1999; Gillberg, Melander, von Knorring, Janols, Thernlund, Hagglof et al., 1997; Greenhill, Halperin, & Abikoff, 1999). The latter authors indicated that with methylphenidate improvements were also seen in comorbid ODD and CD.

The improvements in impulsive and overactive behaviour are more pronounced than in attentiveness. Although the sample used was small, it has also shown to improve ODD symptoms which are comorbid with ADHD (Serra-Pinheiro, Mattos, Souza, Pastura, & Gomes, 2004). There is no evidence that the drug is addictive when taken in the normal recommended dosages. The most side effects include appetite suppression and insomnia (Biederman & Faraone, 2005; Taylor et al., 2004).

Dextroamphetamine (Dexedrine or Dextrostat) is the amphetamine agent, which was used most often in the treatment of ADHD. Currently a short acting and long acting

preparations of Adderal®, which consists of a mixture of amphetamine salts, are also available for use with patients with ADHD. Short-acting amphetamine preparations probably have a somewhat longer half-life and duration of action than a short-acting methylphenidate (Waslick & Greenhill, 2004). However, amphetamines are not legal in South Africa.

Magnesium pemoline (Cylert®) also appears to be effective even though it has not been well studied. General side effects of stimulant medications include appetite suppression, weight loss, sleep problems, irritability, headache, skin picking, rash, and occasional association with the development of ticks (Waslick & Greenhill, 2004). Cylert® has potential for serious side effects affecting the liver, therefore it should not be considered as first line drug therapy for ADHD (National Institute of Mental Health, 2002).

Tricyclic antidepressants: imipramine and desipramine have been supported to be effective in the treatment of ADHD and other indications (enuresis, depression), but they also seem to have side effects on heart rate and blood pressure on some children. Some of the side effects include sudden death associated with the use of desipramine (Biederman & Faraone, 2005). This has been suggested to have been due to a heightened cardiotoxicity of the medication to the hearts of young patients. Venlafaxine (Effexor®), a newer antidepressant is also used for its effect on norepinephrine. Bupropion (Wellbutrin®), is an antidepressant with an indirect effect on the neurotransmitter dopamine and has been useful in clinical trials on the treatment of ADHD in both children and adults it also has an added attraction of being useful in reducing cigarette smoking, depression, bipolar

mood disorder, and substance abuse (Biederman & Faraone, 2005; National Institute of Mental Health, 2002).

Other medications: The use of clonidine (and the related agent guanfacine), for the treatment of ADHD have scientific support. With guanfacine which seems to be increasingly prescribed in America, the side effects include daily fatigue, and symptoms consistent with hypotension, which include dizziness, generalized weakness and nausea that can limit adolescent's daily activities. Clonidine is usually used to treat hypertension and it is tried when stimulants do not work or when they cannot be used (Connor, Barkley, & Davis, 2000).

Alpha-adrenergic agents have been used in the treatment of ADHD alone or as an adjunct to stimulants for associated aggression or stimulant induced sleep disturbance (Connor, Fletcher, & Swanson, 1999; Prince, Wilens, Biederman, Spencer, & Wozniak, 1996). They also seem to be able to treat symptoms of ADHD and tics in children with the comorbid diagnosis of Tourette's disorder (Scahill, Chappell, Kim, Schultz, Katsovich, Shepherd et al., 2001). General side effects include rebound hypertension which may occur if it is suddenly discontinued in patients who have been taking significant doses for a prolonged time (Waslick & Greenhill, 2004). In children with aggressive disorders, neuroleptics like haloperidol may be of value in treating aggressiveness as well as impulsiveness and hyperactivity, while mood stabilizers such as lithium have also demonstrated to reduce aggression (Malone, Delaney, Luebbert, Cater, & Campbell, 2000).

Atomoxetine (Strattera®) is being increasingly used as a nonstimulant agent that has been found to increase dopamine and norepinephrine in the prefrontal cortex. It has

been found to improve ODD symptoms and unlike with methylphenidate, atomoxetine's advantages include its minimal risk for substance abuse (Newcorn, Spencer, Biederman, Milton, & Michelson, 2005). For this it is regarded as a better option, especially for children with comorbid conduct problems. Atomoxetine is continuing to gain more preference as it has been shown to be safe and effective; moreover it also seems to work in adult population (Prasad, 2005). It could be discontinued in patients with jaundice and it is encouraged that if the child develops puritis, jaundice, right upper quadrant tenderness or unexplained flu-like symptoms, and dark urine, he/she must consult a medical practitioner (Biederman & Faraone, 2005).

2.10.2. Psychosocial intervention

Education and advice should be the base of any treatment and this could be done through interviews with the parents, child and if possible, the teacher or nurse, about their health beliefs and causal and control attribution, and to inform them all about ADHD- especially the symptoms, aetiology, clinical course, prognosis and treatment. Children who are old enough should be educated about self-observation and self-management. The therapist should also help parents and teachers to identify specific problem situations and find behaviour management techniques for them. The most widely relevant techniques are playing positive attention to appropriate behaviour and compliance, giving commands more effectively, and using appropriate negative consequences for problem behaviours (Barkley, 1998; National Institute of Mental Health, 2002; Swanson, Posner, Cantwell, Wigal, Crinella, Filipek et al., 1998).

Parenting skills training and behaviour therapy: provides parents with tools and techniques for managing their children's behaviour. Techniques such as the use of token

or point system for immediately rewarding good behaviour or work can be used or the use of “time out” or isolation to a chair or bedroom when the child becomes too unruly or out of control. This system of rewards and penalties can be an effective way to modify a child's behaviour (National Institute of Mental Health, 2002). The goal is to help children learn to control their behaviour. Furthermore, parents may also learn to structure situations in ways that will allow their child to succeed. For example, helping a child who is struggling with a large task by dividing the task into small steps, then praising the child when each step is completed. General principles including providing more frequent and immediate feedback (including rewards and punishments), setting up more structure in advance of potential problem situations, and providing greater supervision and encouragement to children with ADHD. Parents may as well learn to use stress management methods such as mediation, relaxation techniques, and exercise to increase their own tolerance to frustration (National Institute of Mental Health, 2002).

Social skills training: helps the child develop better ways of interacting with other children in play and work (new behaviours). The social skills trainer discusses and models appropriate behaviours important in developing and maintaining social relationships. An example for this would be waiting for a turn, sharing toys, asking for help, or responding to teasing, and then children are given a chance to practice these new behaviours. For example, a child might learn to read other people’s facial expression and tone of voice, in order to respond more appropriately (National Institute of Mental Health, 2002; Swanson et al., 1998).

Support groups: these are very important especially in helping parents connect with other people who have the same problems and concerns as with their ADHD

children. Members meet to hear lectures from experts on ADHD and they share frustrations and successes. They also obtain referrals to qualified specialists and information on what works and what does not work. Members develop a sense of belonging in that they feel that they are not alone in their predicament (National Institute of Mental Health, 2002; Swanson et al., 1998).

2.10.3. Multimodal treatment

Some children will require medication as their primary therapy, from the start. This need will arise only if there are severe problems of inattention, hyperactivity and impulsiveness; if they persist after initial consultation and advice and the therapist judges that their impact is so great that other treatment will not be effective. There should be evidence that available resources have been adequately utilised before using medication as first treatment (Swanson, Kraemer, Hinshaw, Arnold, Conners, Abikoff et al., 2001).

If the child does not show symptom improvement after taking a medication for a week, the doctor may try adjusting the dosage. If there is still no improvement, the child may be switched to another medication. About one out of ten children is not helped by a stimulant medication. Other types of medication and treatment forms may be used if stimulants don't work or if the ADHD occurs with another disorder.

2.10.4. Multi-System Therapy

Multi-system therapy (MST) is a family and home based treatment that aims to change how youths function in their natural settings, namely home, school, neighbourhood, in ways that promote positive social behaviour while decreasing antisocial behaviour. The approach views individuals as being surrounded by a network of interconnected systems that encompass individuals, and extrafamilial factors and recognise that intervention is

often necessary in a combination of these systems. The main aim of MST is to reduce youth criminal activity, reduce other types of anti-social behaviours such as drug use and to achieve these outcomes at a cost of saving by decreasing rates of incarceration and out of home placement (Aslop, 2003).

2.10.5. Cognitive Behaviour psychotherapy

The approach uses behaviour therapy techniques to achieve behaviour change through modification of cognitive processes that lead to problem behaviours (Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001). CBT is also important in assisting those with impaired problem solving abilities, drug abusers and juvenile delinquents in order to develop appropriate interpersonal skills.

2.11. Assessment procedures for ADHD

A detailed history, interview with the child, including family details is taken to establish relevant familial factors that may contribute to a better understanding of the presenting problems. Parents can be asked relevant information on family health history, pregnancy and birth, infancy and early childhood and an up to date health and behavioural history. The history sheds light on the extent and time scale of the behaviours and their effect on the family and school dynamics (Duff, 2005). However, the ICD-10 (World Health Organisation, 1993) and the DSM-IV-TR (American Psychiatric Association, 2000) can be used to diagnose ADHD.

Other tools include the Conners Teacher's Rating Scales (Conners, 1969), the Child Behaviour Checklist (Achenbach & Edelbroch, 1983), Interview with the child, Figures test, CPT-II test and school information, Stroop Colour and Word Test (Stroop, 1935), Physical Evaluations Check Vision, Hearing and Overall Physical Health (Duff, 2005). The

Wechsler Intelligence Scale for Children or the WISC-III which is used to test the general thinking and reasoning skills can also be used to assess ADHD (Duff, 2005). Fine manual motor skills can be assessed using the Grooved Pegboard Test, the Maze Coordination Task (Matthews & Kløve, 1964), and the Finger Tapping Test (Reitan & Wolfson, 1985). In addition, Chan, Wang, Ye, Leung, and Mok (2008) state that the Test of Everyday Attention for Children (TEA-Ch) (Manly, Robertson, Anderson, & Nimmo-Smith, 1999) can be used in different cultural settings to assess ADHD in children.

2.12. Prognosis

The proportion of children meeting the diagnostic criteria for ADHD dropped by about 50% over three years after the diagnosis. This occurred regardless of the treatments used. It persists into adulthood in about 30-50% of cases. Those affected are likely to develop coping mechanisms as they mature thus compensating for their previous ADHD. In the United States, 37% of those with ADHD do not get a high school diploma even though many of them will receive special education services. The combined outcomes of the expulsion and dropout rates indicate that almost half of all ADHD students never finish high school. Also in the US, less than 5% of individuals with ADHD get a college degree compared to 28% of the general population.

People with ADHD tend to work better in less structured environments with fewer rules: Self-employment or jobs with greater autonomy are generally well suited for them. Hyperactive types are likely to change jobs often due to their constant need for new interests and stimulations to keep motivated. Swanberg, Passno, and Larimore (2005) note that ADHD sufferers with proper instructions, skills and mentoring can lead to a normal life. According to Sadock and Sadock (2003), the outcomes of ADHD in childhood seem to

be related to the amount of persistent coexisting psychopathology, especially conduct disorders and social disability. Thus, improvement of an individual will depend on the optimal functioning of the situation that one finds him/herself in. Research has shown that sufferers of ADHD when using medication and various therapy approaches to regulate their behaviour may eventually lead to a normal life.

2.13. Conclusion

The history of ADHD clearly indicates that this order has long been around although there were changes in names. Data indicate that the disorder is prevalent all over the world. Early identification so that treatment (whether behavioural, psychological or medication) can be started is very important, so that the child is able to achieve his/her full potential. Individuals with ADHD need not be perpetual victims of their diagnoses. There is no magic cure for ADHD, However it can be managed. Success with the multi-modal therapies suggests that there is much sufferers can do to help themselves, it is vital to identify and remediate their needs, discover and nature their talents to full potential.

CHILD ABUSE

3.1. Introduction

Child abuse constitutes all forms of physical and/or emotional ill treatment, sexual abuse, neglect or negligent treatment resulting in actual or potential harm to the child's health, survival, developmental in the context of a relationship of responsibility, trust and power (World Health Organization, 1993).

Girls and boys of all ages, ethnic groups, and socio-economic levels experience alarmingly high rates of child abuse and neglect, which are associated with a wide range of emotional problems and psychiatric symptoms. In most cases of persistent incest, sexually abused children are threatened with further abuse or abandonment if they disclose the family secrets (Sadock & Sadock, 2003).

Child abuse is classified into *child neglect* which is the failure to provide for a child in all spheres: physical and mental health, education, nutrition, shelter, and safe living conditions, in the context of resources reasonably available to the family or caretakers, *emotional abuse* which is the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so that a child can establish a stable and full range of emotional and social competencies, *physical abuse* of a child are acts that result in actual or potential physical harm, and *sexual abuse* is the involvement of a child or youth in sexual activity that the young person does not fully comprehend, unable to give informed consent to, not developmentally prepared for and violates the laws (World Health Organization, 1993).

3.2. History of Child abuse

Child abuse has for a long time been recorded in literature, art and science in many parts of the world. Research reports on infanticide, mutilation, abandonment and other forms of violence against children date back to ancient civilizations (Ten Bensel, Rheinberger, & Radbill, 1997). The historical record is also filled with reports of unkempt, weak and malnourished children cast out by families to fend for themselves and of children who have been sexually abused (World Health Organization, 1993).

Crucial for the theoretical understanding of the history of child abuse was the history of childhood itself. In 1960 the French historian, Philippe Ariès, proposed the controversial theses that the concept of childhood varied and developed in different historical contexts and that modern childhood was, in some sense, "discovered" in the Renaissance; only then, according to Ariès, did European culture and society become fully attuned to the distinctive character of childhood, to its fundamental difference from adulthood. The notion of fundamental difference between childhood and adulthood is essential for understanding child abuse, since the concept of child abuse assumes that there is a distinctive standard for the treatment of children and the violation of that standard defines abuse (Ten Bensel et al., 1997).

For a long time also there have existed charitable groups and others concerned with children's wellbeing who have advocated the protection of children. Nevertheless, the issue did not receive widespread attention by the medical profession or the general public until 1962, with the publication of a seminal work, "The battered child syndrome" (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962).

Widespread medical interest in abuse was initiated by the introduction of the term “battered child syndrome” in 1962. The article "The Battered-Child Syndrome," by C. Henry Kempe, Frederic N. Silverman, and colleagues thus marked the end of the ancient régime in the history of child abuse, separating the epochs before and after 1962. Thereafter, it was the medical establishment, with its scientific credentials, that defined child abuse according to the evidence of medical examination, including the evidence of radiology, revealing the battered bones of young children. At the same time, the scientific conclusions of "The Battered-Child Syndrome" further implied a set of sociological revelations: first, the general prevalence of abuse in a supposedly enlightened society, and second, the hitherto unacknowledgable circumstance that abuse was not usually the work of evil strangers, or even evil step-parents, but was largely practiced by natural parents upon their own children (Kempe et al., 1962).

Since then, recognition of the problem of child physical abuse has been increasing. Child abuse is defined by the Child Abuse Prevention and Treatment Act (CAPTA), originally enacted in 1974 in the USA, as any recent act or failure to act by a caretaker resulting in death, serious physical or emotional harm, sexual abuse or exploitation, or imminent risk of serious harm to a child. A combination of individual, familial, and societal factors contribute to the risk of child maltreatment. Although children are victimized and not responsible for the harm inflicted upon them, certain children are more likely than others to be victims of child abuse (Swerdlin, Berkowitz, & Craft, 2007). Child abuse has been around for a long time, but recently an increase in cases involving child abuse has been reported (Biederman & Faraone, 2005). Child maltreatment happens in all countries and cultures (Dubowitz & Bennett, 2007). Globally, approximately 40 million children are

subjected to child abuse each year (World Health Organization, 2001). Maltreatment of children has become a major public health crisis.

3.3. Child abuse in South Africa and Africa

In a study in South Africa, 30 percent of girls report that their first sexual intercourse was forced. South Africa is in shock over the surge in the rape and other forms of abuse of children and babies and cases such as these commonly receive attention in the media. According to (Mutimbe, 1999), a child is raped every five minutes in South Africa and one in every four children suffers some form of abuse. According to a report by the (South African Police Services, 2008), in 42% of reported rapes and attempted rapes, children are the victims. This type of abuse requires extensive interventions as child rape has been found to be a more intrusive form of abuse in the children's lives compared to other forms of abuse (Bagley & King, 1990). This type of abuse affects children's emotional, psychological as well as their sexual development. Rape by its very nature has been found to be an unjust exercise of power exerted on vulnerable groups, namely women and children (Lawrence & van Rensburg, 2006).

Children in abusive households also suffer from the effects of violence, whether or not they are physically abused. Studies have shown that children who witness violence may experience many of the same emotional and behavioural problems that physically abused children experience, such as depression, aggression, disobedience, nightmares, physical health complaints and poor school performance. In rural Malawi, 55 percent of adolescent girls surveyed, report that they were often forced to have sex (Njovana & Watts, 1996).

3.4. Description and diagnosis

3.4.1 Emotional abuse

Emotional abuse is the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so that a child can establish a stable and full range of emotional and social competencies commensurate with his/her personal potential, and in the context of the society in which the child lives (World Health Organization, 1993).

3.4.1.1 Signs of emotional abuse:

The caregiver's behaviour:

- Describes child as “different”
- Belittles or humiliates the child in front of others
- Exhibits excessive demands
- Blames the child for different reasons
- Uses the child as a vehicle for marital fighting
- Makes the child watch violence
- Destroys the child's possessions

The child's behaviour:

- Manipulative
- Withdrawn
- Timid

- Disruptive
- Overly demanding
- Fearful of caregiver
- Depressed
- Wilfully injuring animals
- Fire setting
- Change in behaviour: cruel behaviour
- Age-inappropriate behaviours (bedwetting, wetting)
- Behavioural extremes
- Difficulty concentrating
- Change in school performance: intellectual difficulties.
- Delayed emotional/physical development: lack of friends and other social relationships
- Change in appetite (American Academy of Pediatrics, 2000).

3.4.2 Neglect

Neglect is the failure to provide for a child in all spheres: physical and mental health, education, nutrition, shelter, and safe living conditions, in the context of resources reasonably available to the family or caretakers (World Health Organization, 1993).

3.4.2.1 Signs of neglect

- Health and physical deterioration

- Decline in mental functioning
- Change in behaviour (spiritual and moral)
- Delayed emotional/physical and social development (Cahill, Kaminer, & Johnson, 1999; Swerdlin et al., 2007).

3.4.3. Physical abuse

Physical abuse of a child are acts that result in actual or potential physical harm, stemming from an interaction (or lack of interaction) that is reasonably within the control a parent or person in a position of responsibility, power, or trust (World Health Organization, 1993).

3.4.3.1. Signs of physical abuse

- Injuries that do not fit the given explanation or time frames
- Unusual and unexplained bone fractures
- External signs (bruises, lacerations, scars, abrasions, burns, sprains, and broken bones)
- Internal injuries (head injury)
- Intra-abdominal injuries (ruptured liver or spleen)
- Missing teeth
- Bruise marks shaped like hands, fingers, or objects (such as a belt), or unexplained bruises in areas where normal childhood activities would not usually result in bruising

- Specific patterns of scalding, seen when a child is immersed in hot water as a punishment—particularly "glove" or "sock" burn patterns
- Burns from an electric stove, radiator, heater, or other hot objects, usually seen on the child's hands, arms, or buttocks
- Cigarette burns on exposed areas or the genitals
- Black eyes in an infant or a similar, unexplained injury in a child
- Human bite marks
- Lash marks
- Choke marks around neck
- Circular marks around wrists or ankles (indicating twisting or tying up)
- Separated sutures
- Bulging fontanel
- Evidence of unexplained abdominal injury (such as bruised or ruptured intestines due to punching)
- Unexplained unconsciousness in infant
- Extreme behavioural change (withdrawal, aggression, depression, antisocial behaviour)
- Unusual shyness, wariness of physical contact (Cahill et al., 1999; Swerdlin et al., 2007).

3.4.4. Sexual abuse

Sexual abuse is the involvement of a child or youth in sexual activity that the young person does not fully comprehend, that he/she is unable to give informed consent to, that he/she is not developmentally prepared for and cannot give consent to, or that violates the laws or social taboos of society. The perpetrator is an adult/another child (five years older) in a position of responsibility, trust, or power, and sexual activity is intended to gratify or satisfy the needs of the perpetrator (World Health Organization, 1993).

3.4.4.1 Signs of sexual abuse:

- Disturbed sleep patterns
- Sudden decline in school performance (truancy)
- Difficulty in walking or sitting
- Change in behaviour (aggression, sexual acting out)
- Change in appetite
- Child prostitution
- Symptoms of infection
- Genital injury
- Abdominal pain
- Constipation
- Chronic or recurrent urinary tract infections (MacMillan, 2000; Swerdlin et al., 2007).

3.5. Diagnostic criteria

The focus of clinical attention is severe mistreatment of one individual by another through physical abuse, sexual abuse and neglect. These problems are frequently a focus of clinical attention among individuals seen by health professionals (American Psychiatric Association, 2000)

3.5.1. DSM-IV TR criteria for problems related to abuse and neglect

3.5.1.1. Neglect of the child:

This category should be used when the focus of clinical attention is child neglect (American Psychiatric Association, 2000).

3.5.1.2. Physical abuse of the child:

This category should be used when the focus of clinical attention is physical abuse of the child.

3.5.1.3. Sexual abuse of the child

This category should be used when the focus of clinical attention is sexual abuse of the child.

3.6. Age of onset

Vulnerability to child abuse- whether physical, sexual or through neglect, depends in part on a child's age. Fatal cases of physical abuse are found largely among young infants. In reviews of infant deaths in Fiji, Finland, Germany and Senegal, for instance, the majority of victims were less than 2 years of age. Young children are also at risk for non-fatal physical abuse, though the peak ages for such abuse vary from country to country. For example, rates of non-fatal physical abuse peak for children at 3–6 years of age in China, at 6–11 years of age in India and between 6 and 12 years of age in the

United States. Sexual abuse rates, on the other hand, tend to rise after the onset of puberty, with the highest rates occurring during adolescence. Sexual abuse, however, can also be directed at young children (Adinkrah, 2000; Menick, 2000; Vock, Meinel, Geserick, Gabler, Muller, Leopold et al., 1999).

Worldwide, 40-47 percent of sexual assaults are perpetrated against girls age 15 or younger. In a study in a South African hospital of children under age 15 in whom a diagnosis of child abuse was considered, 45 percent of the children reported having been the target of sexual abuse. Thirty-one percent reported being physically abused, and sexual abuse was suspected but not confirmed in another 14 percent of the children. The latest police statistics reveal disturbing facts about the plight of one of the most vulnerable groups in the country, children (Argent, Bass, & Lachman, 1995). A study in Uganda revealed that 49 percent of sexually active primary school girls say they had been forced to have sexual intercourse. Abuse takes place in both urban and rural environments (Noble, Cover, & Yanagishita, 1996). A study in a rural population of South Africa found that 51 percent of children between six months and 15 years of age receiving medical treatment for sexual abuse have been abused by a neighbour, an acquaintance, a lodger or a stranger (Larsen, Chapman, & Armstrong, 1996).

Studies conducted in a city in Zimbabwe found that half of reported rape cases involved girls less than 15 years of age and that girls were most vulnerable to sexual abuse by male relatives, neighbours and school teachers. Both boys and girls can be targets of sexual abuse (Njovana & Watts, 1996). In a District in Uganda, 31 percent of school girls and 15 percent of boys report having been sexually abused many by teachers. The threat of social stigma prevents young women from speaking out about rape and abuse (Sebunya,

1996). In Zimbabwe, rape cases are sometimes settled out of court when the perpetrator either pays compensation to the girl's father or pays a bride price and marries the girl to avoid bringing public attention and shame to the girl and her family. All Anglophone countries have enacted laws which directly address sexual offences against minors. The age at which young people are protected by statutory rape laws varies in these countries, from under 13 years in Nigeria to under 16 years in Zimbabwe. Only Kenya specifically criminalizes both physical and verbal sexual harassment (The Center for Reproductive Law and Policy [and] International Federation of Women Lawyers, 1997; Njovana & Watts, 1996).

3.7. Prevalence

3.7.1. Age and Gender differences

In most countries, girls are at higher risk than boys for infanticide, sexual abuse, educational and nutritional neglect, and forced prostitution. Findings from several international studies show rates of sexual abuse to be 1.5–3 times higher among girls than boys. Globally, more than 130 million children between the ages of 6 and 11 years are not in school, 60% of whom are girls. In some countries, girls are either not allowed to receive schooling or else are kept at home to help look after their siblings or to assist the family economically by working mostly at farms. Male children appear to be at greater risk of harsh physical punishment in many countries. Although girls are at increased risk for infanticide in many places, it is not clear why boys are subjected to harsher physical punishment. It may be that such punishment is seen as a preparation for adult roles and responsibilities, or else that boys are considered to need more physical discipline (Meadow, 1999).

Clearly, the wide cultural gaps that exist between different societies with respect to the role of women and the values attached to male and female children could account for many of these differences. Whether abusers are more likely to be male or female depends, in part, on the type of abuse. Research conducted in China, Chile, Finland, India and the United States suggests that women report using more physical discipline than men. In Kenya, reports from children also show more violence by mothers than fathers. However, men are the most common perpetrators of life-threatening head injuries, abusive fractures and other fatal injuries (National Research Council, 1993).

3.7.2. Cultural and national issues

Any global approach to child abuse must take into account the differing standards and expectations for parenting behaviour in the range of cultures around the world. Culture is a society's common fund of beliefs and behaviours, and its concepts of how people should conduct them. Included in these concepts are ideas about what acts of omission or commission might constitute abuse and neglect. In other words, culture helps define the generally accepted principles of child-rearing and care of children. Different cultures have different rules about what are acceptable parenting practices. Some researchers have suggested that views on child-rearing across cultures might diverge to such an extent that agreement on what practices are abusive or neglectful may be extremely difficult to reach. Nonetheless, differences in how cultures define what is abusive have more to do with emphasizing particular aspects of parental behaviour. It appears that there is general agreement across many cultures that child abuse should not be allowed and virtual unanimity in this respect where very harsh disciplinary practices and sexual abuse are concerned (Estroff, 1997; Korbin, 1991).

3.8. Aetiology

3.8.1. Special characteristics

Premature infants, twins and handicapped children have been shown to be at increased risk for physical abuse and neglect. There are conflicting findings from studies on the importance of mental retardation as a risk factor. It is believed that low birth weight, prematurity, illness, or physical or mental handicaps in the infant or child interfere with attachment and bonding and may make the child more vulnerable to abuse. However, these characteristics do not appear to be major risk factors for abuse when other factors are considered, such as parental and societal variables (National Research Council, 1993).

3.8.2. Caregiver and family characteristics

Research has linked certain characteristics of the caregiver, as well as features of the family environment; lack of money for the child's needs was one of the primary reasons given by parents for psychologically abusing their children.

3.8.2.1 Family size and household composition

The size of the family can also increase the risk for abuse. A study of parents in Chile, for example, found that families with four or more children were three times more likely to be violent towards their children than parents with fewer children. However, it is not always simply the size of the family that matters. Data from a range of countries indicate that household overcrowding increases the risk of child abuse. Unstable family environments, in which the composition of the household frequently changes as family members and others move in and out, are a feature particularly noted in cases of chronic neglect (Larrain, Vega, & Delgado, 1997).

3.8.2.2 Personality and behavioural characteristics

A number of personality and behavioural characteristics have been linked, in many studies, to child abuse and neglect. Parents more likely to abuse their children physically tend to have low self-esteem, poor control of their impulses, mental health problems, and to display antisocial behaviour. Neglectful parents have many of these same problems and may also have difficulty planning important life events such as marriage, having children or seeking employment. Many of these characteristics compromise parenting and are associated with disrupted social relationships, an inability to cope with stress and difficulty in reaching social support systems. Abusive parents may also be uninformed and have unrealistic expectations about child development. Research has found that abusive parents show greater irritation and annoyance in response to their children's moods and behaviour, that they are less supportive, affectionate, playful and responsive to their children, and that they are more controlling and hostile (National Research Council, 1993).

3.8.2.3 Violence in the home

Increasing attention is being given to intimate partner violence and its relationship to child abuse. Data from studies in countries as geographically and culturally distinct as Colombia, South Africa and the United States have all found a strong relationship between these two forms of violence. In a recent study in India, the occurrence of domestic violence in the home doubled the risk of child abuse. Among known victims of child abuse, 40% or more have also reported domestic violence in the home. In fact, the relationship may be even stronger, since many agencies charged with protecting children

do not routinely collect data on other forms of violence in families (Hunter, Jain, Sadowski, & Sanhueza, 2000; Madu & Peltzer, 2000; National Research Council, 1993).

3.8.3. Community factors

3.8.3.1 Poverty

Numerous studies across many countries have shown a strong association between poverty and child maltreatment. Rates of abuse are higher in communities with high levels of unemployment and concentrated poverty. Such communities are also characterized by high levels of population turnover and overcrowded housing. Research shows that chronic poverty adversely affects children through its impact on parental behaviour and the availability of community resources. Communities with high levels of poverty tend to have deteriorating physical and social infrastructures and fewer of the resources and amenities found in wealthier communities (McLoyd, 1990; National Research Council, 1993).

3.8.3.2 Social capital

Social capital represents the degree of cohesion and solidarity that exists within communities. Children living in areas with less “social capital” or social investment in the community appear to be at greater risk of abuse and have more psychological or behavioural problems. On the other hand, social networks and neighbourhood connections have been shown to be protective of children. This is true even for children with a number of risk factors – such as poverty, violence, substance abuse and parents with low levels of educational achievement – who appear to be protected by high levels of social capital (Runyan, Hunter, Socolar, maya-Jackson, English, Landsverk et al., 1998).

3.8.3.3 *Societal factors*

A range of society-level factors are considered to have important influences on the well-being of children and families. These factors – not examined to date in most countries as risk factors for child abuse include:

- The role of cultural values and economic forces in shaping the choices facing families and shaping their response to these forces.
- Inequalities related to sex and income – factors present in other types of violence and likely to be related to child maltreatment as well.
- Cultural norms surrounding gender roles, parent–child relationships and the privacy of the family.
- Child and family policies – such as those related to parental leave, maternal employment and child care arrangements.
- The nature and extent of preventive health care for infants and children, as an aid in identifying cases of abuse in children.
- The strength of the social welfare system – that is, the sources of support that provide a safety net for children and families.
- The nature and extent of social protection and the responsiveness of the criminal justice system.
- Larger social conflicts and war.

Many of these broader cultural and social factors can affect the ability of parents to care for children, enhancing or lessening the stresses associated with family life and influencing the resources available to families (Runyan et al., 1998).

3.8.4. *Other characteristics*

Stress and social isolation of the parent have also been linked to child abuse and neglect. It is believed that stress resulting from job changes, loss of income, health problems or other aspects of the family environment can heighten the level of conflict in the home and the ability of members to cope or find support. Those better able to find social support may be less likely to abuse children, even when other known risk factors are present. In a case-control study in Buenos Aires, Argentina, for instance, children living in single parent families were at significantly greater risk for abuse than those in two-parent families. The risk for abuse was lower, though, among those who were better able to gain access to social support. Child abuse has also been linked in many studies to substance abuse, though further research is needed to disentangle the independent effects of substance abuse from the related issues of poverty, overcrowding, mental disorders and health problems associated with this behaviour (Runyan et al., 1998).

3.9. Comorbidity

The immediate emotional effects of abuse and neglect is isolation, fear, and an inability to trust and can translate into lifelong consequences, including low self-esteem, depression, and relationship difficulties. Researchers have identified links between child abuse and neglect and other psychological and emotional conditions include panic disorder, dissociative disorders, attention-deficit/hyperactivity disorder, depression, anger, posttraumatic stress disorder, and reactive attachment disorder (De Bellis & Thomas, 2003;

Springer, Sheridan, Kuo, & Carnes, 2007; Teicher, Anderson, Polcari, Glod, Maas, & Renshaw, 2000).

3.9.1. Alcohol and drug abuse

Some children have a few symptoms that do not reach clinical levels of concern, or else are at clinical levels but not as high as in children generally seen in clinical settings. Other survivors have serious psychiatric symptoms, such as depression, anxiety, substance abuse, aggression, shame or cognitive impairments. Research consistently reflects an increased likelihood that abused and neglected children will smoke cigarettes, abuse alcohol, or take illicit drugs during their lifetime (Dube, Anda, Felitti, Chapman, Williamson, & Giles, 2001a).

Studies have found abused and neglected children to be at least 25 percent more likely to experience problems such as delinquency, teen pregnancy, low academic achievement, drug use, and mental health problems (Kelley, Thornberry, & Smith, 1997). Other studies suggest that abused or neglected children are more likely to engage in sexual risk-taking as they reach adolescence, thereby increasing their chances of contracting a sexually transmitted disease (Johnson, Rew, & Sternglanz, 2006).

3.9.2. Depression and anxiety

Depression is often a severe aftermath in child molestation. The trauma of a child being molested is a tormenting aspect to happen to a young child. Depression in a young child can become a devastating state. Most young children cannot handle the side effects associated with depression. Anger is often a rooted problem with child who has been molested. They are often left angry at the person who committed the heinous crimes against them. Not only do they find themselves angry at the predator but the people who are

supposed to protect them, fail to do so. A recent longitudinal cohort study in Christchurch, New Zealand, for instance, found significant associations between sexual abuse during childhood and subsequent mental health problems such as depression, anxiety disorders and suicidal thoughts (Dubowitz, Papas, Black, & Starr, Jr., 2002; Fergusson, Lynskey, & Horwood, 1996).

The sexual problems have been a frustration for those who have had these crimes committed against them. Some, victims of child abuse, find themselves to be predators themselves. A child can sometimes grow up to be confused about their own sexual desires. Social withdrawal is a major issue with victims of abuse. Children, who are molested, develop a sense of trust issues. They find themselves hard to trust anyone. It seems everyone becomes an enemy of theirs. The immediate emotional effects of abuse and neglect are isolation, fear, and an inability to trust, can translate into lifelong consequences, including low self-esteem, depression, and relationship difficulties. Depression and withdrawal symptoms were common among children as young as three years of age who experienced emotional, physical, or environmental neglect (Dubowitz et al., 2002).

3.9.3. Eating and sleeping disorders

The victims of child molestation often develop eating disorders. Why an eating disorder? The eating disorder gives them power and control over something in their lives. Adults with a history of sexual abuse often present for treatment with a secondary mental health issues, which can include an eating disorder. In one long-term study, as many as 80 percent of young adults who had been abused met the diagnostic criteria for at least one

psychiatric disorder at age 21. These young adults exhibited many problems, including eating disorders and sleeping disorders (Silverman, Reinherz, & Giaconia, 1996).

3.9.4. Posttraumatic disorder and dissociation disorder

Some abused children meet the full criteria for psychiatric illness that include post-traumatic stress disorder. Child abuse, including sexual abuse, especially chronic abuse starting at early ages, has been found to be related to the development of high levels of dissociative symptoms, which includes amnesia for abuse memories. The level of dissociation has been found to be related to reports of overwhelming sexual and physical abuse. When severe sexual abuse (penetration, several perpetrators, lasting more than one year) had occurred, dissociative symptoms were even more prominent (Widom, 1999).

Child sexual abuse independently predicts the number of symptoms of PTSD a person displays, after controlling for possible confounding variables, according to Widom (1999), who wrote about sexual abuse maybe more than other forms of childhood trauma, leads to dissociative problems... these PTSD findings represent only part of the picture of the long-term psychiatric sequelae associated with early childhood victimization, antisocial personality disorder, alcohol abuse, and other forms of psychopathology. Children may develop symptoms of post traumatic stress disorder resulting from child sexual abuse, even without actual or threatened injury or violence (Widom, 1999).

3.9.5. Antisocial disorder

According to a National Institute of Justice Study (2004), abused and neglected children were 11 times more likely to be arrested for criminal behaviour as a juvenile, 2.7 times more likely to be arrested for violent and criminal behaviour as an adult, and 3.1 times more likely to be arrested for one of many forms of violent crime (juvenile or adult)

(English, Widom, & Brandford, 2004). Abusive parents often have experienced abuse during their own childhoods. It is estimated approximately one-third of abused and neglected children will eventually victimize their own children (Prevent Child Abuse New York, 2003).

3.9.6. Attention Deficit/ Hyperactivity Disorder

A study by Endo, Sugiyama, and Someya (2006), found that 18% of abused children had diagnosis of ADHD which is similar to other studies (Glod & Teicher, 1996). The abused children in this study had a high prevalence of ADHD (18%) which is similar to previous studies, and many of the abused children examined exhibited ADHD criteria symptoms after child abuse (Endo et al., 2006). As this is the topic of the present research, this will be discussed in more detail in Chapter 4.

3.10. Associated development and social problems

3.10.1 Cognitive difficulties

The child usually becomes withdrawn within themselves. Their marks drop, and they no longer want to try and succeed. School performance drops dramatically. Child abuse and neglect have been shown, in some cases, to cause important regions of the brain to fail to form or grow properly, resulting in impaired development (De Bellis & Thomas, 2003). These alterations in brain maturation have long-term consequences for cognitive, language, and academic abilities (Watts-English, Fortson, Gibler, Hooper, & De Bellis, 2006). NSCAW (National Survey of Child and Adolescent Well-Being) found that children placed in out-of-home care due to abuse or neglect tended to score lower than the general population on measures of cognitive capacity, language development, and academic achievement (U.S. Department of Health and Human Services, 2003). A 1999

LONGSCAN (Longitudinal Studies of Child Abuse and Neglect) study also found a relationship between substantiated child maltreatment and poor academic performance and classroom functioning for school-age children (Zolotor, Kotch, Dufort, Winsor, Catellier, & Bou-Saada, 1999).

3.10.2 Social difficulties

Children who experience rejection or neglect are more likely to develop antisocial traits as they grow up. Parental neglect is also associated with borderline personality disorders and violent behaviour (Dube, Anda, Felitti, Edwards, & Croft, 2002; Schore, 2003).

3.11. Associated health problems

Importantly, there is now evidence that major adult forms of illness, including ischaemic heart disease, cancer, chronic lung disease, irritable bowel syndrome and fibromyalgia – are related to experiences of abuse during childhood. The prevalence of child sexual abuse in Africa is compounded by a belief that sexual intercourse with a virgin will cure a man of HIV or AIDS. This belief is especially common in South Africa, which has the highest number of HIV-positive citizens in the world. According to official figures, one in eight South Africans is infected with the virus. Several studies have shown a relationship between various forms of household dysfunction (including childhood abuse) and poor health (Felitti, 2002; Flaherty, Thompson, Litrownik, Theodore, English, Black et al., 2006);. Adults who experienced abuse or neglect during childhood are more likely to suffer from physical ailments such as allergies, arthritis, asthma, bronchitis, high blood pressure, and ulcers (Springer et al., 2007; Williamson, Thompson, Anda, Dietz, & Felitti, 2002).

3.12. Treatment and prevention

3.12.1. Family support approaches

3.12.1.1 Training in parenting

A number of interventions for improving parenting practices and providing family support have been developed. These types of programmes generally educate parents on child development and help them improve their skills in managing their children's behaviour. While most of these programmes are intended for use with high-risk families or those families in which abuse has already occurred, it is increasingly considered that providing education and training in this area for all parents or prospective parents can be beneficial. In Singapore, for instance, education and training in parenting begins in secondary school, with "preparation for parenthood" classes. Students learn about child care and development, and gain direct experience by working with young children at preschool and child care centres. For families in which child abuse has already occurred, the principal aim is to prevent further abuse, as well as other negative outcomes for the child, such as emotional problems or delayed development. Evaluations of programmes on education and training in parenting have shown promising results in reducing youth violence (World Health Organization., 1999).

3.12.1. Home visitation and other family support programmes

Home visitation programmes bring community resources to families in their homes. This type of intervention has been identified as one of the most promising for preventing a number of negative outcomes, including youth violence and child abuse. During home visits, information, support and other services to improve the functioning of the family are offered. A number of different models for home visitation have been

developed and studied. In some, home visits are provided to all families, regardless of their risk status, whereas others focus on families at risk for violence, such as first-time parents or single and adolescent parents living in communities with high rates of poverty (Olds, Henderson, Jr., Chamberlin, & Tatelbaum, 1986; Olds, Eckenrode, Henderson, Kitzman, Powers, Cole et al., 1997; The David and Lucille Packard Foundation, 1999).

3.12.1.3. Training for health care professionals

Studies in various countries have highlighted the need for the continuing education of health care professionals on the detection and reporting of early signs and symptoms of child abuse and neglect. Consequently, a number of health care organizations have developed training programmes so as to improve both the detection and reporting of abuse and neglect, and the knowledge among health care workers of available community services. In the United States, for example, the American Medical Association and the American Academy of Pediatrics have produced diagnostic and treatment guidelines for child maltreatment and sexual abuse (American Academy of Pediatrics, 1999).

3.12.2. Health service approaches

3.12.2.1 Screening by health care professionals.

Health care professionals have a key part to play in identifying, treating and referring cases of abuse and neglect and in reporting suspected cases of maltreatment to the appropriate authorities. It is vital that cases of child maltreatment are detected early on, so as to minimize the consequences for the child and to launch the necessary services as soon as possible. Screening, traditionally, is the identification of a health problem before signs and symptoms appear. In the case of child abuse and neglect, screening

could present problems, since it would need to rely on information obtained directly from the perpetrator or from observers. For this reason, relatively few approaches to screening have been described, and for the most part the focus has been on improving the early recognition by health care providers of child abuse and neglect, primarily through greater levels of training and education (MacLeod & Nelson, 2000).

3.12.3. Therapeutic approaches

3.12.3.1 Services for victims

A review of treatment programmes for physically abused children found that therapeutic day care with an emphasis on improving cognitive and developmental skills was the most popular approach (Bross, Ballo, & Korfmacher, 2000). Therapeutic day care has been advocated for a range of conditions related to abuse, such as emotional, behavioural or attachment related problems and cognitive or developmental delays. The approach incorporates therapy and specific treatment methods in the course of the child's daily activities at a child care facility. Most programmes of this type also include therapy and education for the parents. Consequently, a wide variety of intervention approaches and treatment methods have been adopted to treat child victims of sexual abuse, including individual, group and family therapy (Oates & Bross, 1995).

3.12.3.2. Services for children who witness violence

One of the more recent additions to the collection of intervention strategies is services for children who witness domestic violence. Research has shown that such exposure may have numerous negative consequences. For instance, children who witness violence are more likely to reproduce, as adults, dysfunctional relationships within their own families. As with cases of direct physical or sexual assault, children who witness

violence may exhibit a range of symptoms, including behavioural, emotional or social problems and delays in cognitive or physical development, although some may not develop problems at all. Given this variability, different intervention strategies and treatment methods have been developed, taking into account the developmental age of the child. The evidence to date for the effectiveness of these programmes is limited and often contradictory (Groves, 1999).

3.12.3.2 Services for adults abused as children

A number of studies have found a link between a history of child abuse and a range of conditions, including substance abuse, mental health problems and alcohol dependence. In addition, victims of child abuse may not be identified as such until later in life and may not have symptoms until long after the abuse has occurred. For these reasons, there has been a recent increase in services for adults who were abused as children, and particularly in referrals to mental health services (Anda, Croft, Felitti, Nordenberg, Giles, Williamson et al., 1999; Dube et al., 2001).

3.13. Child abuse and the law

Child abuse is outlawed in almost all countries, generally with severe criminal penalties, including in some jurisdictions, life imprisonment or capital punishment. An adult's sexual intercourse with a child below the legal age of consent is defined as statutory rape based on the principle that an abusing adult is a criminal deviant who takes advantage of a child, who is not capable of consent, and that any apparent consent by a child could not be considered to be legal consent (Office of the United High Commissioner for Human Rights, 1989).

3.14. Conclusion

Child abuse is a serious global health problem. Although most studies on it have been conducted in developed countries, there is compelling evidence that the phenomenon is common throughout the world. Much more can and should be done about the problem. In many countries, there is little recognition of child abuse among the public or health professionals. Recognition and awareness, although essential elements for effective prevention, are only part of the solution. Prevention efforts and policies must directly address children, their caregivers and the environments in which they live in order to prevent potential abuse from occurring and to deal effectively with cases of abuse and neglect that have taken place. The concerted and coordinated efforts of a whole range of sectors are required here, and public health researchers and practitioners can play a key role by leading and facilitating the process.

Chapter 4

RELATIONSHIP BETWEEN ADHD AND CHILD ABUSE

4.1. Introduction

ADHD is a progressive disorder and it can be masked by other problems as children enter their teenage years. ADHD in adolescents can be associated with child abuse. The behavioural sequelae of child abuse and the symptoms and outcomes of children with Attention-Deficit/Hyperactivity Disorder (ADHD) share many features, including aggression and externalizing behaviour, depression, and cognitive difficulties (Briscoe-Smith & Hinshaw, 2006).

ADHD in adolescents can be associated with a number of psychological problems. It has been asserted that abused children and children with ADHD share the common features of externalizing and internalizing behaviour problems, peer rejection, and cognitive difficulties. ADHD, however, is only one of a wide spectrum of disabilities that are associated with abuse. It can now be reported with a measure of certainty that there is a strong association between child abuse and childhood disability. Children with disabilities are about three times as likely to be abused as kids without disabilities. Another part is caused by increased vulnerability or targeting of kids with disabilities. A third part is caused by other causal factors, such as substance abusing parents, which increase risk for both difficulties (Briscoe-Smith & Hinshaw, 2006).

4.2. Biological model

A study by Endo et al. (2006), found that 18% of abused children had a diagnosis of ADHD which is similar to other studies (Glod & Teicher, 1996). Many of the abused

children examined exhibited ADHD criteria symptoms after child abuse (Endo et al., 2006).

Questions on why abused children fulfil the ADHD criteria after child abuse have suggested traumatized concentration of attention and impulse control. Consequently, a large number of abused children would be diagnosed with ADHD after child abuse. It has been speculated that some children affected by ADHD suffered subtle damage to the central nervous system (CNS) and brain development during their foetal and prenatal periods. They were hypothesized with circulatory toxic, metabolic, mechanical or physical harm to the brain during early infancy caused by infection, inflammation and trauma. Frontal lobe development and functioning may be abnormal (Sadock & Sadock, 2003). Some children who have suffered accidents leading to brain injury may show some signs of behaviour similar to that of ADHD.

Inheritance also indicates some possibilities. ADHD is a condition for which high rates of heritability and evidence of neurobiological underpinnings strongly suggest neurodevelopmental origins. It indicates that parenting is not likely to be a primary cause of ADHD. In addition, given the genetic underpinnings of many cases of ADHD, biological parents of children with ADHD are likely to show impulse control and attention problems themselves possibly increasing the likelihood of abusive behaviour (Briscoe-Smith & Hinshaw, 2006).

4.3. Psychosocial Factors

Children in institutions are frequently overactive and have poor attention spans. These signs result from prolonged emotional deprivation and they disappear when deprivational factors are removed, such as through adoption or placement in a foster home.

Stressful psychic events, disruption of family equilibrium and other anxiety including risk factors contribute to the initiation or perpetuation of ADHD.

ADHD thus far has been linked to various factors in the family environment that correlate significantly with childhood mental disturbances (Biederman & Faraone, 2005). Rutter's well-known studies of Isle of Wight and the inner borough of London revealed six risk factors in the family environment that correlated significantly with childhood mental disturbances: severe marital discord, low social class, large family size, paternal criminality, maternal mental disorder and foster placement. Biederman and colleagues further identified a positive association between Rutter's index of adversity and ADHD, measures of ADHD-associated psychopathology, impaired cognition, and psychosocial dysfunction (Biederman & Faraone, 2005b; Rutter et al., 1975) led to ADHD.

4.4. The link between child abuse and ADHD

4.4.1. Emotional abuse

Iwaniec, Larkin, and McSherry (2007), also found that the effects of emotional maltreatment are detrimental to the child's development. These acts of maltreatment convey to the child that he or she is worthless, flawed, unloved, unwanted, or endangered. It includes emotional unavailability, unresponsiveness, and withdrawal of attention. An emotional disturbance can be characterized by poor self image, cognitive delays and difficulties, problems with coping, and difficulty forming meaningful relationships, or connecting with others. Changes in effects can be seen at different stages of development.

Children who have been emotionally maltreated have higher aggression, anger, and frustration. Older children and adolescence experience social rejection, dependency and school difficulties. College students have difficulties with clinical distress, and

psychological disturbances such as obsessive compulsiveness, depression and anxiety. Symptoms in adults include depression, eating disorders suicidal ideation, anxiety, low self-esteem, interpersonal and sexual problems. They are also more likely than others to have substance abuse problems. All forms of maltreatment have an element of emotional harm (Iwaniec et al., 2007).

Abused children also show evidence of poor social interactions and peer relationships. They are rated by their peers as more rejected, less popular, and more disruptive than children who have not been abused. Parents and teachers also rate abused children as socially rejected. Abuse (Osofsky, 2003; Widom, 1999) and neglect (Margolin & Gordis, 2000; Osofsky, 2003) have been linked to both poor academic functioning and delayed cognitive development. Abused children present with externalizing and internalizing difficulties, compromised peer relations, and academic/cognitive impairments (Briscoe-Smith & Hinshaw, 2006).

4.4.2. Neglect

Child maltreatment has short and long-term medical, mental health, and social sequelae. Children in hospital who have been abused or neglected have more severe injuries, longer hospital stays, worse medical outcomes, higher hospital charges, and are more likely to die during the stay in hospital than other children admitted to hospital. Children with abusive head trauma have a worse short-term outcome than those with head trauma that was not inflicted. The above descriptions of different injuries due to abuse suggest their sizeable morbidity and mortality. Neglect is similarly associated with many potential problems (Dubowitz & Bennett, 2007). Studies have found abused and neglected children to be at least 25 percent more likely to experience problems such as delinquency,

teen pregnancy, low academic achievement, drug use, and mental health problems (Kelley et al., 1997).

Parental neglect is also associated with borderline personality disorders and violent behaviour (Schore, 2003). Research also indicates that perceived low parental care and overprotection in childhood are associated with depression and anxiety disorders later in life (Newcombe, Mineka, Zinbarg, & Griffith, 2007). Further research concluded that child maltreatment presents alarming challenges which interfere with a healthy development of self esteem and depressive symptoms. Physical neglect was positively associated with depressive symptoms, suggesting that children who had experienced physical neglect were at higher risk for depression, compared to those without such experiences (Kim & Chicchetti, 2006). There may be some evidence toward biological determinants, as with children with developmental disorders; however, there is more evidence showing an effect between emotional disturbances, and parental neglect, most specifically within dysfunctional family systems. Children who experience rejection or neglect are more likely to develop antisocial traits as they grow up (Schore, 2003).

Child maltreatment negatively affect the victim's development physically, intellectually, and psychosocially (Kempe & Kempe, 1978; Mullen, Martin, Anderson, Romans, & Herbison, 1993). Child victims of neglect and/or abuse are 1.75 times more likely to experience Post traumatic stress disorder as adults compared to individuals who did not experience neglect or abuse (Widom, 1999). Researchers have established a link between experiencing neglect and abuse as a child and engaging in illegal and delinquent behaviours as a teenager and adult (Widom, 2001). The immediate emotional effects of

abuse and neglect is isolation, fear, and an inability to trust can translate into lifelong consequences, including low self-esteem, depression, and relationship difficulties.

4.4.3. Physical abuse

Physically abused children are at risk of developing behavioural and functional difficulties, including conduct disorders, aggressive behaviours, decreased cognitive functioning, and poor academic achievement (Dubowitz & Bennett, 2007). Beyond the physical trauma experienced by children, there are other consequences of physical abuse. Studies of physically abused children and their families indicate that a significant number of psychological problems are associated with child physical abuse. Abused children compared with non-abused children may have more difficulty with academic performance, self-control, self-image and social relationships. A recent US study comparing physically abused and non-abused children provided considerable evidence of the negative and lasting consequences of physical abuse. The physically abused children in the study experienced far greater problems at home, at school, amongst peers and in the community (U.S. Department of Health and Human Services, 2003).

Children who are physically abused have a predisposition to a host of emotional disturbances. They may experience feelings of low self-esteem and depression or may be hyperactive and overly anxious. Many of these children may exhibit behavioural problems such as aggression towards other children or siblings. Other emotional problems include anger, hostility, fear, humiliation, and an inability to express feelings. The long-term emotional consequences can be devastating. For example, children who are abused are at risk of experiencing low self-esteem, depression, drug/alcohol dependence, and increased potential for child abuse as a parent. The social impact on children who have been

physically abused is perhaps less obvious, yet still substantial. Immediate social consequences can include an inability to form friendships with peers, poor social skills, poor cognitive and language skills, distrust of others, over-compliance with authority figures, and a tendency to solve interpersonal problems with aggression. In their adult life, the long-term consequences can impact both their family and their community. There are financial costs to the community and society in general, e.g., funding social welfare programs and services and the foster care system. Studies have shown that physically abused children are at a greater risk for mental illness, homelessness, crime, and unemployment. All of these affect the community and society in general and are the social costs of physical abuse (Perry, Mann, Palker-Corell, Ludy-Dobson, & Shick, 2002).

4.4.4. Sexual abuse

ADHD is a progressive disorder and can be masked by other problems as children enter their teenage years. (Livingston, Lawson, & Jones, 1993) found more ADHD and anxiety disorders in sexually abused children compared to physically abused Attention-deficit hyperactivity disorders and posttraumatic stress disorder are the most commonly diagnosed disorders in sexually abused children (Lev-Wiesel, 2008).

Children experience a wide range of symptoms after they have been sexually abused. Some symptoms show up immediately, and others appear as delayed responses. Still others get better over time. Traumatic events, including sexual abuse, can alter the brains of children, and the effects may not be obvious for several years (Perry, 2001).

The symptoms that children manifest also vary by age of the child. For example, preschool-age children are more likely to experience anxiety, nightmares, or sexual acting out. Common symptoms for school-age children include fear, aggression, school problems,

hyperactivity, and regressive behaviours. Adolescents are more likely to be depressed, attempt suicide, abuse substances, or participate in illegal behaviours. Symptoms often change over time. For example, a preschooler who is sexually acting out may become an adolescent with multiple sexual partners (Kendall-Tackett, Williams, & Finkelhor, 1993).

The effects of child sexual abuse can continue well into adulthood. Symptoms adult survivors manifest are often logical extensions of dysfunctional coping mechanisms developed during childhood. While these dysfunctional behaviours may have helped the child cope with on-going abuse, they have a negative impact on adult functioning (Briere & Elliot, 1994; Kendall-Tackett & Marshall, 1998). Posttraumatic stress disorder (PTSD) is common, but not specific to sexual abuse. Sexualized behaviour is the most characteristic symptom, but not one that every child manifests. It is also one of the more disturbing symptoms and includes public masturbation, sexual play with dolls, and asking other children and adults to participate in sexual activity (Kendall-Tackett et al., 1993).

The effects of sexual abuse include regressive behaviours (such as a return to thumb-sucking or bedwetting), sleep disturbances, eating problems, behaviour or performance problems at school, and non-participation in school and social activities. The other negative effects child sexual abuse can affect the victim for many years and into adulthood. Increased aggression and externalizing problems, including hostility, difficulty with anger management, impulsivity, and physical attacks (Widom, 1997) are clearly linked to abuse (Cicchetti, Rogosch, Lynch, & Holt, 1993; Deater-Deckard & Dodge, 1997; Margolin & Gordis, 2000b; Osofsky, 2003; Widom, 1997). Sexual abuse predicts such specific externalizing behaviours as sexualized talk, preoccupation with sexual themes, sexual aggression towards other peers, and provocative behaviours at early ages,

collectively termed “sexual acting out” (Gil & Johnson, 1993; Margolin & Gordis, 2000). Abuse is often damaging to a child’s self-perceptions and perceptions of the world, resulting in learned helplessness, anxiety and depression (Kazdin, Moser, Colbus, & Bell, 1985), even to the point of increased self destructive and suicidal behaviour (Widom, 1997).

Reviews of a large array of studies examining the long-term sequelae of Childhood Sexual Abuse (Breslau, 2002; Kaysen, Resick, & Wise, 2003; Neumann, Houskamp, Pollock, & Briere, 1996; Ruggiero, Smith, Hanson, Resnick, Saunders, Kilpatrick et al., 2004) list numerous psychological, behavioural, and social difficulties in survivors of sexual abuse that include depression, psychological distress, poor self-esteem (Freshwater, Leach, & Aldridge, 2001; Johnson, 2004), substance abuse, suicide attempts (Dube, Anda, Felitti, Chapman, Williamson, & Giles, 2001b; Plant & Miller, 2004), severe posttraumatic stress symptomatology (Petrak & Campbell, 1999), psychopathology disorders (Owens & Chard, 2003), self-destructive behaviour (Merrill, Thomsen, Sinclair, Gold, & Milner, 2001), and dissociative disorders (Fleming, Mullen, Sibthorpe, & Bammer, 1999; Simpson & Miller, 2002). Due to the fact that boundaries between the psychological, physical, somatic or social effects are often blurred, it is impossible to identify a “sexual abuse effect syndrome”; rather, what becomes apparent is a multifaceted model of traumatisation (Kendall-Tackett et al., 1993).

4.5. Conclusion

Abuse experiences vary in their severity, as do reactions of those who are abused. Even when the experience is severe, however, there is hope for healing. In one study, survivors reported that good came from the tragedy of their abuse (McMillen, Zuravin, &

Rideout, 1995). They described how their abusive pasts made them more sensitive to the needs of others. Many felt compelled to help others who had suffered similar experiences.

CHAPTER 5

HYPOTHESES

5.1. Introduction

ADHD is one of the most frequently diagnosed childhood psychiatric disorders with prevalence rates in 5 to 10% (Scahill and Schwab-Stone, 2000). Longitudinal studies have consistently shown childhood ADHD to be a significant contributing factor to poor outcome in adolescence and adulthood (Barkley, Fischer, Edelbrock, & Smallish, 1990; Fischer, Barkley, Edelbrock, & Smallish, 1990; Hechtman & Weiss, 1986; Mannuzza, Klein, Bessler, Malloy, & LaPadula, 1993; Mannuzza, Klein, Konig, & Giampino, 1989). Negative outcomes often associated with childhood ADHD include heightened risk childhood maltreatment (De Sanctis, Trampush, Harty, Marks, Newcorn, Miller et al., 2008).

The present study focuses mainly on a history of child abuse (emotional abuse, neglect, sexual abuse and physical abuse) in adolescents, which may be related to symptoms of impulsiveness and inattention in the child and adolescent.

The study tried to establish whether there are correlations between ADHD symptomatology and a history of child abuse in adolescents. The main goal of this study is to explore the relationship between ADHD (hyperactivity/impulsiveness and inattention) symptoms in adolescents and a history of child abuse, mainly emotional abuse, neglect, sexual abuse and physical abuse as reported by the subjects.

5.2. Hypotheses

5.2.1. Research hypothesis

There is a relationship between the symptoms of ADHD (inattention and hyperactivity/impulsiveness) and a history of child abuse, namely, emotional abuse, neglect, physical abuse and sexual abuse.

5.2.2 Specific null hypotheses derived from research hypothesis:

1.1. There is no relationship between emotional abuse and hyperactivity/impulsiveness.

1.2. There is no relationship between emotional abuse and inattention.

2.1. There is no relationship between neglect and hyperactivity/impulsiveness.

2.2. There is no relationship between neglect and inattention.

3.1. There is no relationship between physical abuse and hyperactivity/impulsiveness.

3.2. There is no relationship between physical abuse and inattention.

4.1. There is no relationship between sexual abuse and hyperactivity/impulsiveness.

4.2. There is no relationship between sexual abuse and inattention.

The methodology followed in this study has been outlined in the next chapter. A description of the statistical tests employed to accept or reject the hypothesis formulated here will also be outlined in the next chapter.

RESEARCH METHODOLOGY

6.1. Introduction

The purpose of this study was to investigate the relationship between the symptoms of ADHD in adolescents and a history of child abuse as reported by the adolescents in secondary school pupils in the Mankweng area. Theories on the biological and psychosocial basis of ADHD and child abuse have suggested a relationship which has been confirmed by some of the studies cited. Abused children often fulfil the ADHD criteria before and/or after child abuse. (Sadock & Sadock, 2003).

The main objective of this study is therefore to establish a relationship between the symptoms of ADHD, (hyperactivity/impulsiveness and inattention) and a history of neglect, emotional, physical and/or sexual abuse as reported by the subjects.

6.2. Method

6.2.1 Research Design

This is a quantitative study with a correlational research design. The symptoms of ADHD as measured by the Barkley's Symptoms Scale for Adolescents (BSSA) (Barkley & Murphy, 2006) were correlated with responses from the Abbreviated and modified form of the Child Maltreatment Interview Schedule (CMIS) (Briere, 1993).

6.2.2. Sample

The sample consisted of adolescent boys and girls who were not previously diagnosed with ADHD, aged 16-20 years. The participants of this convenience sample were recruited from Mountain View Secondary School, located in Mankweng, Limpopo Province.

The participation was voluntary and permission was obtained from the Department of Education, school principal and informed consent from learners doing grade 11. Adolescents with a medical history of neurological problems (e.g. epilepsy, head injuries, cerebral palsy, or cerebral malaria) were excluded from the research project. None of the participants used psychostimulant medication at the time of testing.

A biographical questionnaire was given to each participant to fill out in order to obtain detailed information about them and their backgrounds.

The final sample consisted of 191 participants

Table 6.1 shows the gender mean age, as well as the scores for hyperactivity/impulsiveness and inattention for the sample.

Table 6.1 Mean scores for age and ADHD symptoms for the sample (N=191).

Figure 6.1 gender distribution of the sample

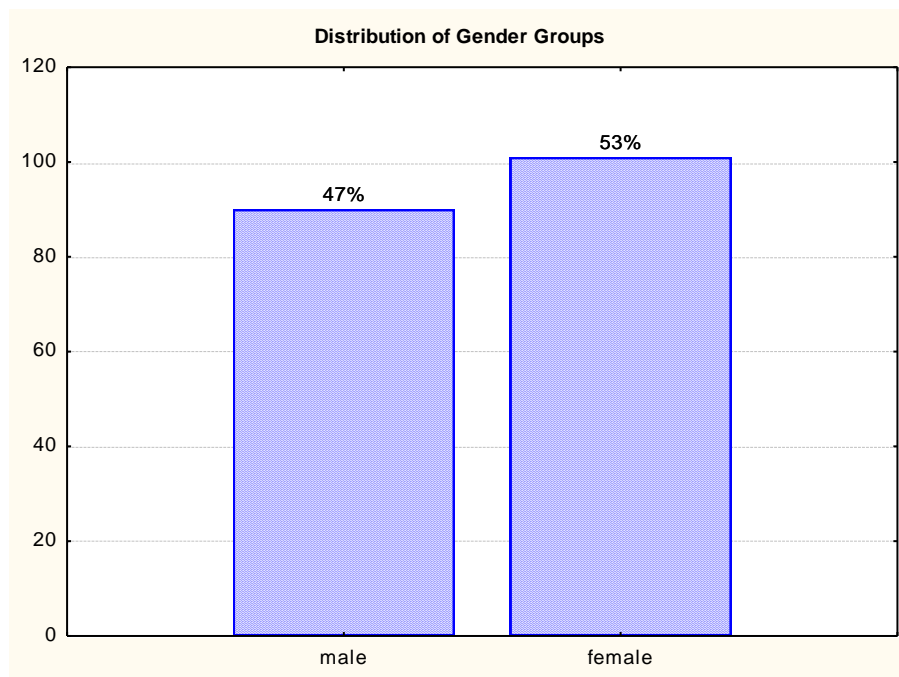


Figure 6.2 Age distribution of the sample (N=191)

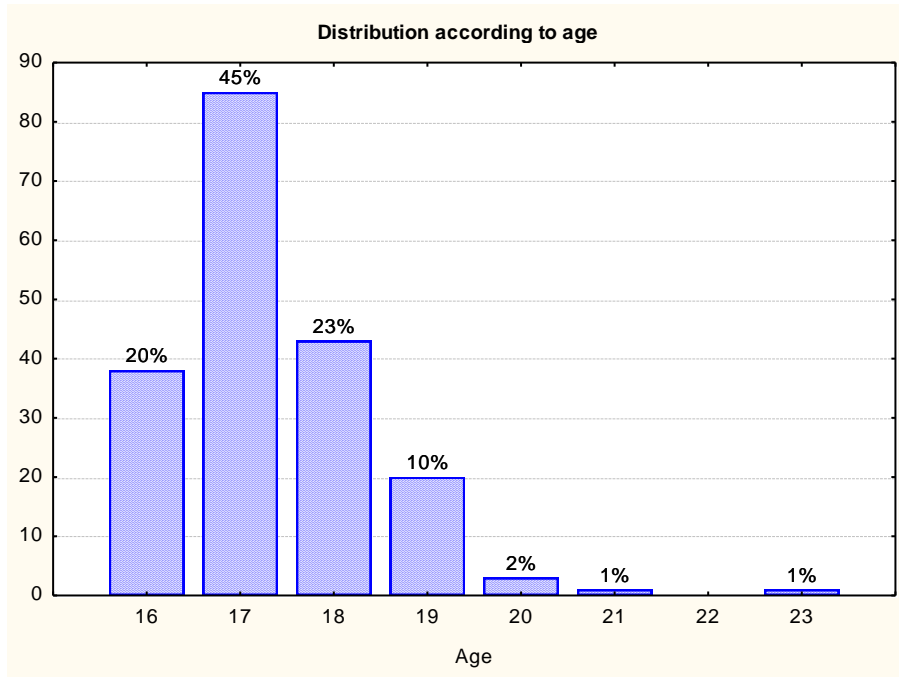


Figure 6.3 Distribution of the language groups of the sample

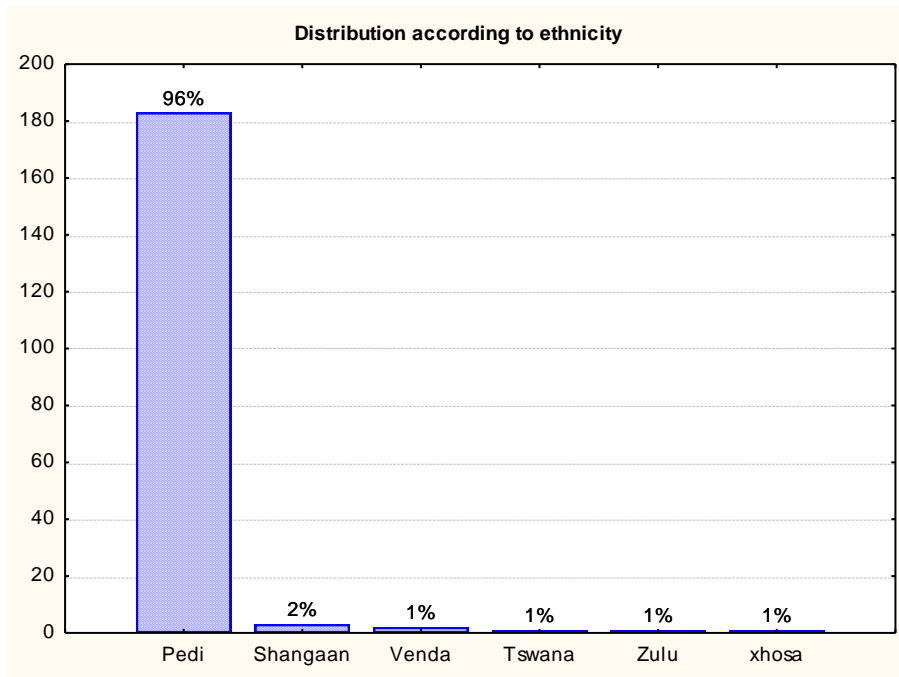


Figure 6.3 Language distribution of the sample (N=191)

6.2.3. Measurement instrument

The following methods were used in the study: Barkley's ADHD symptom Scale for Adolescents and the Abbreviated and modified form of the Child Maltreatment Interview Schedule.

6.2.3.1. Barkley's ADHD Symptom Scale for Adolescents

Barkley's Symptoms Scale for Adolescents (Barkley & Murphy, 2006) was used to assess the presence and degree of ADHD symptoms of the participants. This scale contains the symptoms for ADHD as they appear in DSM-IV-TR (American Psychiatric Association, 2000). The scale is in English and consists of 18 items measuring ADHD-related symptoms. The respondents were asked to rate their behaviour on a four point scale comprising of the following options: never or rarely (0) sometimes (1) often (2) and very often (3)-See appendix B. Where questions were not clear the researcher explained in the respondent's own language.

6.2.3.2. Abbreviated and modified form of the Child Maltreatment Interview Schedule

The Child Maltreatment Interview Schedule (Briere, 1993) is a self rating child maltreatment questionnaire assessing symptoms of child abuse. The scale looks into forms of abuse, namely: emotional abuse, neglect, physical abuse and sexual abuse. The scale is in English and questions are close and open questions: yes or no. Scoring was done with yes given a zero and no given a one (See appendix C). Where questions were not clear the researcher explained in the respondent's own language.

6.2.4 Procedure

A letter to the school principal to obtain consent to conduct this study was sent out. As this study formed part of a larger study, *ADHD in the Limpopo Province*, permission

had already been obtained from the local Department of Education. A letter obtained from Ethics Committee of the University of Limpopo stating the purpose of the study was presented to the school principal who in turn presented the research project to the teachers. Informed consent was also obtained from the participants. After having obtained the necessary permission, the participants were given a questionnaire stating their biographical information, Barkley's ADHD Symptoms Scale and the abbreviated and modified form of the Child Maltreatment Interview Schedule questionnaire to complete.

The participants were tested on a school day as arranged with the school principal and the teachers. The researcher herself administered the questionnaires and took only a day to complete administering the questionnaires. The tests included: (1) Questionnaire (consisting of Parts A, illustrating biographical information of the adolescents; B, illustrate Barkley's ADHD symptoms scale and Abbreviated and modified form of the Child Maltreatment Interview Schedule). The procedure lasted about 45-60 minutes per participant.

6.3. Data analysis

The ADHD scores on Barkley's Symptoms Scale for Adolescents- BSSA (Part B of the questionnaire) were correlated with scores on the Abbreviated and modified form of the Child Maltreatment Interview Schedule- CMIS (Part C to K of the questionnaire).

The computer programme STATISTICA 8.0 (StatSoft, 2008) was employed. Descriptive statistics were used to describe the responses on the BSSA and the CMIS. Pearson's product-moment correlations were computed to investigate the relationship between the symptoms of ADHD and the responses on the CMIS.

CHAPTER 7

RESULTS

7.1. Introduction

The aim of the study was:

1. To establish a relationship between the symptoms of ADHD (hyperactivity/impulsivity and inattention) and forms of child abuse namely, emotional abuse, neglect, physical abuse and sexual abuse.

This chapter will report on the results obtained when the collected data were analysed for testing the postulated hypotheses.

7.2. Results of the study

The results are presented in the following format:

- Descriptive statistics in table form.
- Results of the correlations to establish a relationship between the symptoms of ADHD (hyperactivity/impulsivity and inattention) and forms of child abuse namely emotional abuse, neglect, physical abuse and sexual abuse.
- Scatter plots to illustrate the significant relationship between ADHD symptoms (hyperactivity/impulsiveness and inattention) and child abuse (emotional abuse, neglect, physical abuse and sexual abuse).

7.2.1. Descriptive statistics

Table 7.1 Depicts the results obtained on the hyperactivity/impulsiveness and inattention subscales of Barkley’s Symptom Scale for Adolescents.

Table 7.1 Results on Barkley’s Symptom Scale for Adolescents (N=191).

Gender	Age	N	Inatt.	H/I
Male	16	16	3.875 ± 3.07	3.688±2.87
	17	36	6.250 ± 3.43	6.917 ± 5.76
	18	20	6.700 ± 4.04	5.950 ± 4.96
	19	14	5.714 ±4.07	5.857 ± 3.86
	20	2	12.000 ± 9.90	13.000 ± 7.07
	21	1	8.000 ±0.00	9.000 ± 0.00
	23	1	0.000 ± 0.00	0.000 ± 0.00
Female	16	22	7.318 ± 5.13	6.727 ± 4.38
	17	49	5.449 ± 4.59	5.327 ± 4.49
	18	23	6.217 ± 5.04	6.130 ± 5.55
	19	6	4.833 ± 2.93	3.667 ± 2.25
	20	1	0.000 ± 0.00	0.000 ± 0.00

Table 7.2 represents the results obtained on the various scales of the CMIS for the sample.

Table 7.2 Scores on the CMIS (N=191)

Gender	Age	N	Em. Abuse	Neglect	Ph. Abuse	Sex. abuse
Male	16	16	0.125 ± 0.50	3.313 ± 4.83	0.125 ± 0.50	0.625 ± 0.25
	17	36	0.889 ± 1.35	6.833 ± 9.14	0.305 ± 0.62	0.583 ± 1.02
	18	20	0.681 ± 0.83	5.000 ± 7.54	0.4000 ± 0.68	0.550 ± 1.19
	19	14	0.429 ± 1.34	3.357 ± 4.77	0.143 ± 0.53	0.071 ± 0.27
	20	2	0.000 ± 0.00	16.000 ± 7.07	0.000 ± 0.00	0.000 ± 0.00
	21	1	4.000 ± 0.00	25.000 ± 0.00	0.000 ± 0.00	1.000 ± 0.00
	23	1	5.000 ± 0.00	22.000 ± 0.00	0.000 ± 0.00	1.000 ± 0.00
Female	16	22	0.636 ± 1.43	7.273 ± 10.60	0.318 ± 0.57	0.591 ± 1.05
	17	49	0.429 ± 1.08	4.939 ± 7.81	0.163 ± 0.51	0.490 ± 0.89
	18	23	0.521 ± 1.04	8.087 ± 11.02	0.174 ± 0.39	0.565 ± 0.99
	19	6	0.167 ± 0.41	5.167 ± 7.39	0.167 ± 0.41	0.333 ± 0.82
	20	1	0.000 ± 0.00	3.000 ± 0.00	0.000 ± 0.00	0.000 ± 0.00

7.2.2. Correlation results

In order to investigate whether the symptoms of ADHD (hyperactivity/impulsivity and inattention) are related to child abuse, the scores obtained were correlated with each other, using Pearson's Product-Moment. Tables 7.3 and 7.4 show the correlations obtained.

Table 7.3 Correlations between ADHD symptoms and child abuse scores.

	Inattention	Hyp / Imp
Emotional abuse	r=0.2955 p=.000**	r=0.1913 p=.008*
Neglect	r= 0.2926 p= .000**	r= 0.2152 p= .003*
Physical abuse	r =0.3031 p=.000**	r= 0.2400 p= .001*
Sexual abuse	r= 0.1884 p= .009*	r= 0.1697 p= .019*

*p < 0.05

**p<0.001

Although the correlations between the symptoms of ADHD (hyperactivity/impulsiveness and inattention) and the scores on the CMIS (emotional abuse, neglect, physical abuse and sexual abuse) were weak, they were statistically significant ($p \leq 0.05$).

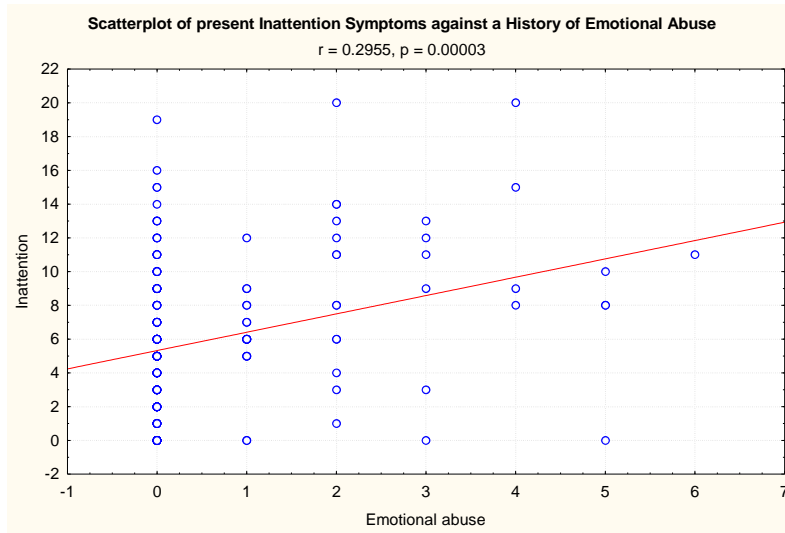
7.2.3. Scatter plots

The scatter plots to illustrate the obtained statistically significant correlations will be depicted in this section.

7.2.3.1. Emotional abuse

Figure 7.1 illustrates the correlation between emotional abuse and inattention symptoms.

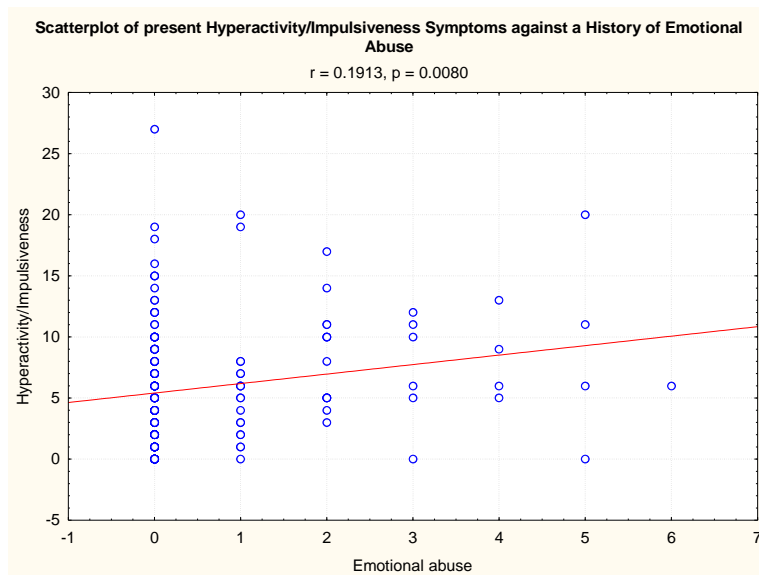
Figure 7.1 Graphic representations of the results of emotional abuse and inattention symptoms.



The relationship between scores of emotional abuse and inattention symptoms shows a weak significant but positive correlation.

Figure 7.2 shows the scatterplots of the relationship between emotional abuse and hyperactivity/impulsiveness symptoms.

Figure 7.2 Graphic representations of the results of emotional abuse and hyperactivity/impulsivity.

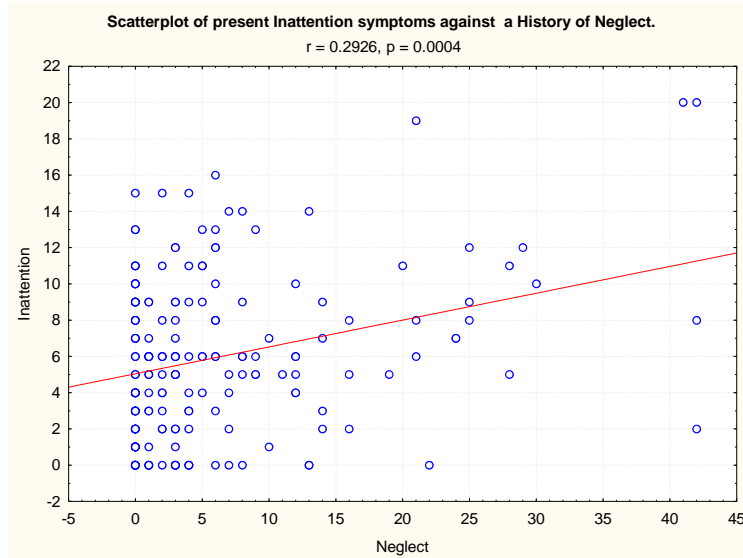


The slope of the graph shows a statistically significant positive weak correlation between emotional abuse and hyperactivity/impulsiveness symptoms.

2.3.2. Neglect

Figure 7.3 shows the scatter plot of the relationship between neglect and inattention symptoms.

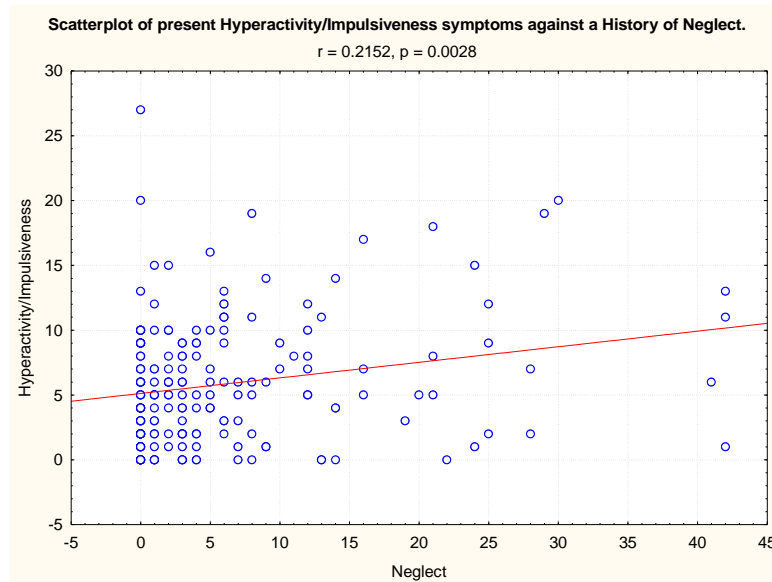
Figure 7.3 Graphic representations of the results of neglect and inattention



The slope of the graph indicates a positive moderate correlation coefficient between neglect and inattention symptoms.

Figure 7.4 shows the scatter plot of the relationship between neglect and hyperactivity/ impulsivity.

Figure 7.4 Graphic representations of the results neglect and hyperactivity/ impulsivity

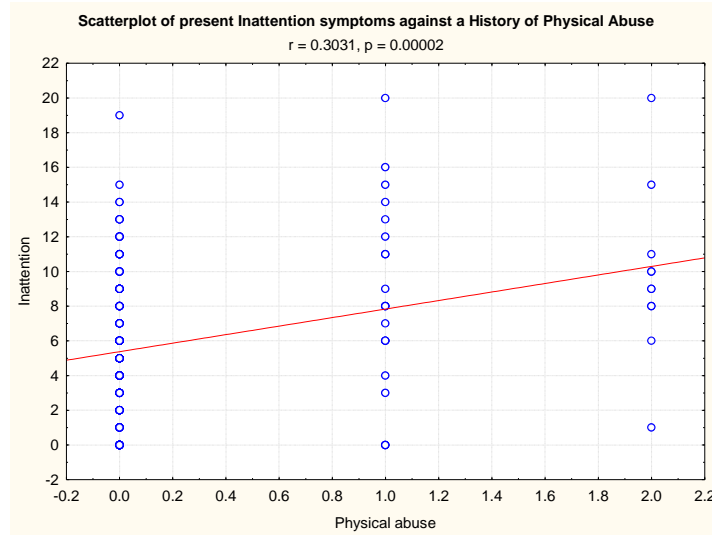


The slope shows a positive but weak correlation coefficient between neglect and hyperactivity/ impulsiveness symptoms.

2.3.3 Physical abuse

Figure 7.5 shows the scatter plot of the relationship between physical and symptoms of inattention.

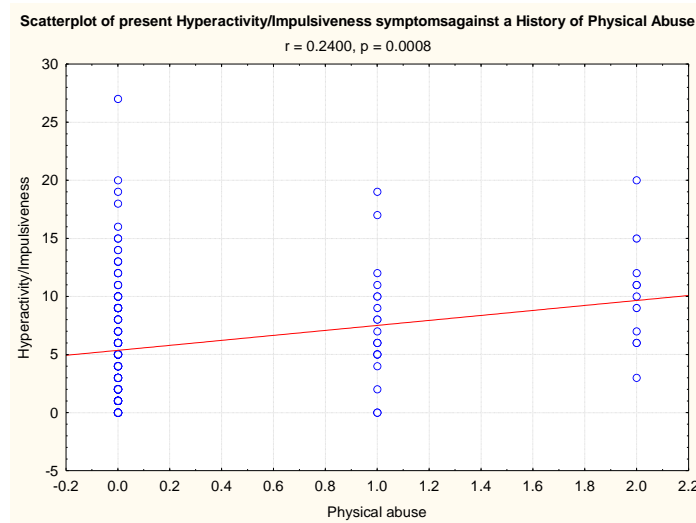
Figure 7.5 Graphic representations of the results of physical abuse and symptoms of inattention.



The slope shows a significant positive weak correlation between physical abuse and symptoms of inattention.

Figure 7.6 shows the scatter plot of the relationship between physical abuse and Hyperactivity/ Impulsiveness symptoms.

Figure 7.6 Graphic representations of the results physical abuse and hyperactivity/impulsiveness symptoms.

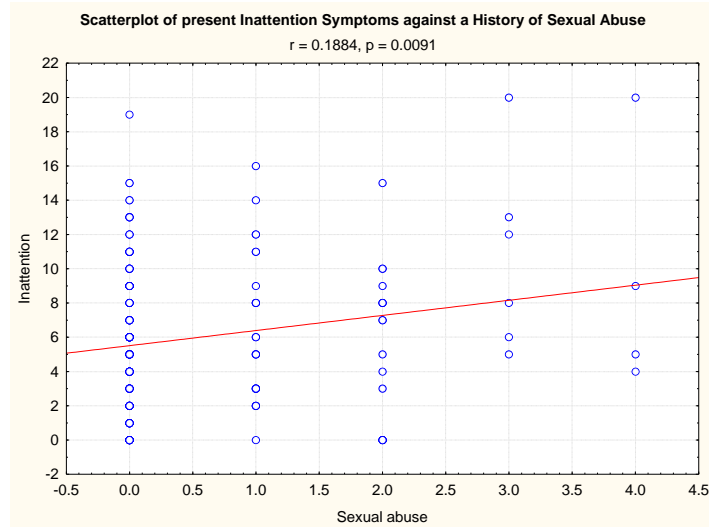


The slope shows a positive but weak correlation coefficient between physical abuse and hyperactivity/impulsiveness symptoms.

7.2.3.4. Sexual abuse

Figure 7.7 shows the scatter plot of the relationship between sexual abuse and inattention symptoms.

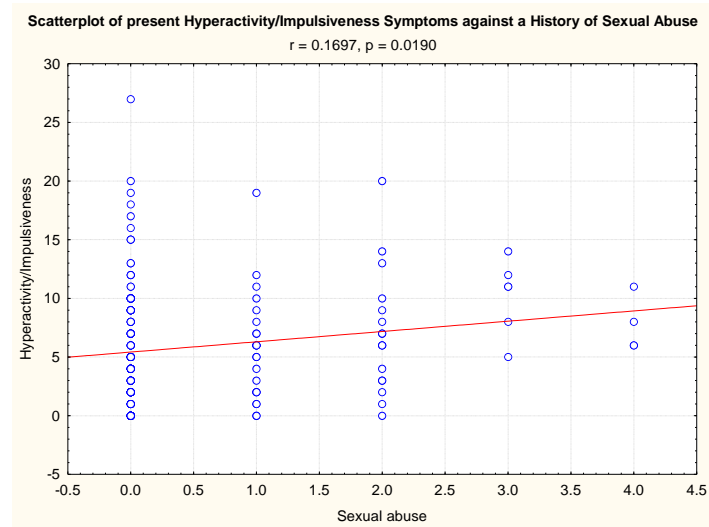
Figure 7.7 Graphic representations of the results of sexual abuse and inattention symptoms.



The slope shows a significant positive correlation coefficient, however weak, between sexual abuse and inattention symptoms.

Figure 7.8 shows the scatter plot of the relationship between physical abuse and Hyperactivity/ Impulsiveness symptoms.

Figure 7.8 Graphic representations of the results of sexual abuse and hyperactivity/impulsiveness symptoms.



The slope shows a positive but weak correlation coefficient between sexual abuse and hyperactivity/impulsiveness symptoms.

7.3. Hypotheses Testing

7.3.1. Research hypothesis

The research hypothesis must be accepted as there were statistically significant relationships between the symptoms of ADHD (inattention and hyperactivity/impulsiveness) and forms of child abuse (emotional abuse, neglect, physical abuse and sexual abuse).

Null hypothesis 1.1 must be rejected as there is a statistically significant correlation between emotional abuse and symptoms of inattention.

Null hypothesis 1.2 must be rejected as there is a statistically significant correlation between emotional abuse and symptoms of hyperactivity/impulsiveness.

Null hypothesis 2.1 must be rejected as there is a statistically significant correlation between neglect and symptoms of inattention.

Null hypothesis 2.2 must be rejected as there is a statistically significant correlation between neglect and symptoms of hyperactivity/impulsiveness.

Null hypothesis 3.1 must be rejected as there is a statistically significant correlation between physical abuse and symptoms of inattention.

Null hypothesis 3.2 must be rejected as there is a statistically significant correlation between physical abuse and symptoms of hyperactivity/impulsiveness.

Null hypothesis 4.1 must be rejected as there is a statistically significant correlation between sexual abuse and symptoms of inattention.

Null hypothesis 4.2 must be rejected as there is a statistically significant correlation between emotional abuse and symptoms of hyperactivity/impulsiveness.

The discussion of the results will follow in next chapter.

DISCUSSION OF RESULTS

8.1. Introduction

The aim of the study was:

To explore the relationship between ADHD symptoms (inattention and hyperactivity/ impulsiveness) and forms of child abuse namely emotional abuse, neglect, physical abuse and sexual abuse.

The results of test scores i.e. the ADHD scores on Barkley's Symptoms Scale for Adolescents (BSSA) were correlated with scores on the Abbreviated and modified form of the Child Maltreatment Interview Schedule (CMIS).

8.2. Summary of results

Table 8.1 illustrates the summary of all significant results for all the tests administered in this study.

Table 8.1 the relationship between ADHD symptoms (hyperactivity/ impulsiveness and inattention) and child abuse

ADHD symptoms	Emotional abuse	Neglect	Sexual Abuse	Physical abuse
Inattention	weak	weak	weak	weak
Hyperactivity/ Impulsiveness	weak	weak	weak	weak

All of the rating scales used showed a statistical significant positive relationship between ADHD symptoms (inattention and hyperactivity/ impulsiveness) and child abuse (emotional abuse, neglect, physical abuse and sexual abuse), although the relationships

were weak. However, the relationship between inattention symptoms and a history of abuse were slightly higher than the relationship between the symptoms of hyperactivity/impulsiveness and a history of abuse.

The data results can be summarized as follows:

A significant, but weak relationship was found between child abuse (emotional abuse, neglect, physical abuse and sexual abuse) and ADHD symptoms, hyperactivity/impulsiveness and inattention, which is, in line with most of studies in the field (Briscoe-Smith & Hinshaw, 2006). Inattention symptoms were found to be slightly more related to abuse than hyperactivity/impulsiveness symptoms.

8.3. Discussion of results

ADHD is defined by the presence of two major symptom dimensions of hyperactivity/impulsiveness (disinhibition) and inattention. A study by Endo, Sugiyama, and Someya (2006) found that 18% of abused children had a diagnosis of ADHD which is similar to other studies (Glod & Teicher, 1996). Many of the abused children examined exhibited ADHD criteria symptoms after child abuse (Endo et al., 2006). Compared to the general prevalence of 5.5 % in Limpopo province, South Africa (Meyer, Eilertsen, Sundet, Tshifularo, & Sagvolden, 2004) and general prevalence of 5.29% worldwide (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007).

8.3.1. Relationship between ADHD symptoms and various forms of child abuse

The findings of the present study are that in a normal population, there is a significant, although weak, relationship between ADHD symptoms in adolescents and a history of child abuse. This implies that adolescents with symptoms of ADHD, although not clinically impaired, have been abused or are at risk of abuse. A strong relationship can

therefore, be expected in a clinically impaired population with diagnosed ADHD, which put them at higher risk for abuse.

Previous studies reported a poorer parent–child relationship, less communication, lesser affective responsiveness, and affective involvement in the ADHD family (Ghanizadeh & Shams, 2007). Children with ADHD who experience their parents as unavailable, unresponsive or rejecting become insecurely attached, and avoid relying on their parents for support, are prone to be abused.

The study showed a weak significant positive correlation between ADHD symptoms (hyperactivity/ impulsiveness and inattention) and child abuse (emotional abuse, neglect, physical abuse and sexual abuse), with inattention symptoms showing a slightly higher correlation than hyperactivity/impulsiveness symptoms.

8.3.1.1. Emotional abuse

The study revealed a weak but statistically significant relationship between emotional abuse and ADHD symptoms (hyperactivity/ impulsiveness and inattention).

Research studies have shown that children and adolescents with ADHD are at a high risk of emotional abuse (Iwaniec, Larkin, & McSherry, 2007). This was explained as a results of the child’s impairment with ADHD (social and academic), including hyperactive-impulsive behaviour, inattention, distractibility and strain on interpersonal relationships (Biederman, 2005)

In the present study, most participants obtained slightly higher scores on inattention symptoms than on hyperactivity/ impulsiveness symptoms. Inattention often leads to disobedience and not following through on instructions which makes the child vulnerable

to abuse. Abuse is often damaging to a child's self-perceptions and perceptions of the world, resulting in learned helplessness, anxiety, and depression (Kazdin, Moser, Colbus, & Bell, 1985), even to the point of increased self-destructive and suicidal behaviour (Widom, 1997). Abused children also show evidence of poor social interactions and peer relationships.

8.3.1.2. Neglect

The study showed that neglect can also be associated with ADHD symptoms (hyperactivity/impulsiveness and inattention). The obtained positive correlation was statistically significant, but weak.

Children diagnosed with ADHD are known to be at increased risk of maltreatment because of externalising behaviours and dysfunctional peer and parental relations (Briscoe-Smith & Hinshaw, 2006; Ford, Racussin, Ellis, Daviss, Reiser, Fleischer et al., 2000). History of childhood neglect is more common in children with ADHD (Semiz, Basoglu, Oner, Munir, Ates, Algul et al., 2008). Parents with substance use disorders have been reported as often to have symptoms of ADHD themselves, as it is a genetic disorder, and therefore more likely to maltreat their children (Ammerman, Kolko, Kirisci, Blackson, & Dawes, 1999) and also that the child disruptive symptoms influences parenting behaviours (Burke, Pardini, & Loeber, 2008). This indicates that parents who uses substances have a high likelihood of maltreating children due to their inconsistent parental direction or discipline, unclear and/or inconsistent parental rules and reactions to children's behaviour, unusual permissiveness, lax supervision or, conversely, excessively severe discipline, constant criticism, and an absence of parental praise or approval.

In the present study, the researcher looked at inattention and hyperactivity/impulsiveness as the key symptoms of ADHD and how they are associated with child abuse, and found that there is a positive but weak significant relationship. However, inattention symptoms were slightly higher correlated with neglect than hyperactivity/impulsiveness symptoms. Inattention (Margolin & Gordis, 2000; Osofsky, 2003) has been linked to both poor academic functioning and delayed cognitive development which may put the child at risk for neglect and maltreatment.

8.3.1.3. Physical abuse

The results of this study showed a weak but statistically significant correlation between physical abuse and ADHD symptoms (hyperactivity/impulsiveness and inattention), with symptoms of inattention having a slightly higher relationship with physical abuse than symptoms of hyperactivity/impulsiveness.

ADHD children are less interpersonally skilled, lack cognitive skills including receptive language, expressive language skills, abstraction abilities, communication, and comprehension of social roles which may lead to them being at risk for physical abuse. Because ADHD is genetically transmitted (Biederman, 2005), the parents may also display symptoms of ADHD, therefore have poor impulse control, and more likely to physically abuse their children.

The present study found that there is a positive weak but significant relationship between ADHD symptomatology and a history of physical abuse again, with symptoms of inattention being slightly higher correlated than symptoms of hyperactivity/impulsiveness. Physical abuse has been linked to both poor academic functioning and delayed cognitive development which may be a result of ADHD symptomatology. On tests of verbal ability

and comprehension, physically abused children tend to score lower than non-abused comparisons (Margolin & Gordis, 2000; Osofsky, 2003).

8.3.1.4. Sexual abuse

The study found a significant but weak relationship between sexual abuse and ADHD (hyperactivity and inattention), this was also observed by Sonnby, Aslund, Leppert, and Nilsson (2010) who reported a higher incidence of sexual abuse in adolescents who were diagnosed with ADHD than in a non-ADHD comparison group. Again, inattention symptoms were slightly higher correlated with sexual abuse than hyperactivity/impulsiveness symptoms.

ADHD is a progressive disorder and can be masked by other problems as children enter their teenage years. (Livingston, Lawson, & Jones, 1993) found more ADHD and anxiety disorders in sexually abused children compared to the physically abused. Attention-deficit/hyperactivity disorders and posttraumatic stress disorder are the most commonly diagnosed disorders in sexually abused children (Lev-Wiesel, 2008). The negative effect of child sexual abuse is that it can affect the victim for many years and into adulthood. Increased aggression and externalizing problems, including hostility, difficulty with anger management, impulsivity, and physical attacks (Widom, 1997) are clearly linked to abuse. Children with ADHD frequently experience child abuse. Neurophysiologic studies have found an abnormality in concentration and stimuli-discrimination in abused children, and these present themselves clinically as inattention and hyperactivity (Matsumoto & Imamura, 2007).

The results of this present study showed that sexual abuse is associated with key symptoms of ADHD (hyperactivity/ impulsiveness and inattention). It has further been

indicated that symptoms of inattention in adolescents can be more associated with sexual abuse than symptoms of hyperactivity/ impulsiveness. Sexual abuse has been more directly linked to childhood PTSD symptoms and later internalizing symptoms (Kendall-Tackett, Williams, & Finkelhor, 1993; Whiffen & Macintosh, 2005). Signs of immaturity and impulsivity have been observed in preschool and school-aged sexually abused children (Gomes-Schwartz, Horowitz, & Sauzier, 1985).

8.3.1.5. ADHD subtypes and abuse

8.3.1.5.1. Inattention

Inattention comprises of a short attention span, difficulty concentrating, an inability to modulate attention in response to externally imposed demands, a problem in initiating tasks, or trouble selectively attending to relevant stimuli while filtering out unnecessary noise. Carlson (1986) and Robin (1998) state that most young adults with ADHD tend to experience a difficulty in performing tasks, which require sustained effort. It is further indicated that adolescents with this condition manifest difficulties in the following areas: selecting and focusing on the relevant stimuli in the environment coupled with starting or executing tasks, maintaining concentration and resisting distraction; consistently mobilising effort in a task-orientated direction; organization, forgetfulness and recall of learnt information and making transition from one task to another (Robin, 1998).

8.3.1.5.2. Hyperactivity

Hyperactivity can be characterised as a failure to inhibit the impulse for motor movement (Robin, 1998; Taylor, 1998). Teicher, Ito, Glod, and Barber (1996), explain hyperactivity as an excessive level of activity, typically seen in ADHD as restless, fidgeting and a general increase in gross body movement. Hyperactivity is seen in some situation

such as the classroom, but might not be present in others such as leisure activities (Porrino, Rapoport, Behar, Sceery, Ismond, & Bunney, 1983). The higher than usual level of motility makes the person with ADHD appear to be driven, restless and never tiring. Children and adolescents with ADHD also have higher levels of sleep activity than controls without the disorder (Corkum, Tannock & Moldofsky, 1998).

8.3.1.5.3. *Impulsiveness*

Impulsiveness is perceived to be key-defining characteristic of ADHD (Barkley, 1997). It is characterised by impairment in executive functioning, which are mental processes that enable planning, execution and regulation of goal directed behaviour (Barkley, 1997; Denckla, 1996; Lezak, Howieson, & Loring, 2004; Robin, 1998). This functioning is mediated by the frontal lobe and in particular the prefrontal cortex and its extended networks (Lezak et al, 2004).

According to Robin (1998), impulsiveness can be further divided into behavioural, cognitive and emotional components in these individuals: *Behaviourally*, impulsive adolescents have to have things right now, and thus act on a whim (Johansen, Aase, Meyer, & Sagvolden, 2002; Robin, 1998); *Cognitively*, it implies that they quickly rush through tasks, overlooking crucial details, making careless mistakes, and writing sloppily (Robin, 1998); *Emotionally*, adolescents turn to be easily frustrated, agitated, moody, angry and violent.

The study found a significant relationship between ADHD (inattention and hyperactivity/impulsiveness) and various forms of child abuse (emotional abuse, neglect, physical abuse and sexual abuse.), in the present study most participants obtained slightly

higher relationship scores on inattention symptoms than on hyperactivity/ impulsiveness symptoms.

The inattention subtype may have heterogeneous origins and be qualitatively different from the ADHD Hyperactive/ impulsive subtype (Johansen, Aase, Meyer, & Sagvolden, 2002) as it include several qualitatively distinct problems with attention (inattention, poor concentration, distractibility). It is associated with academic problems, comorbid disorders such as anxiety and mood disorders, early hyperactive-impulsive behaviour and socially withdrawn tendencies from the children. Also, higher inattention was associated with lower parental warmth (foster parent), higher parental hostility (biological, foster and teacher), and discharge from care (biological parent) (Linares, Li, ShROUT, Ramirez-Gaite, Hope, Albert et al., 2010).

Children with ADHD are more likely to be at risk of identify with learned helplessness. Children with ADHD Inattention subtype experience learned helplessness, and they have a tendency to give up easily or fail more often at somewhat easier tasks. Learned helplessness is more likely to result from situations where failure is uncontrollable. Children end-up withdrawing, and avoiding to engage in any task. For most part they display symptoms of aggression. The more overt symptoms of hyperactivity/ impulsivity tend wane early in life, whereas the more covert symptom of inattention tends to persist over time (Biederman, Faraone, Milberger, Curtis, Chen, MARRS, et al. 1996).

Children with inattention subtype are more vulnerable to child abuse due to the fact that children with inattention display internalizing behaviour (depression, withdrawal) while children with hyperactive/impulsiveness show externalizing behaviour (anger,

hostility, delinquency). Children with inattention subtype are defenceless and withdrawn whereas children with hyperactive/impulsiveness subtype are bully and hostile.

8.4. Limitations of the study

A limitation of the study was that the sample consisted of only learners from one grade (Grade 11) which is not representative of the population. Also, the participants were not diagnosed with ADHD but only screened for ADHD symptoms. The participants were, therefore, not clinically impaired,

Other challenges experienced were that during the completion of the questionnaires participants might not have given a true reflection of their responses; it needs to be considered that various factors might affect reliability, such as language and cultural expression.

Another limitation is that the sample consisted of a homogeneous population, namely Northren Sotho speaking adolescents residing in the Mankweng. Only one school and one population was used for the study.

8.5. Clinical implications

The findings of the study suggest that screening for ADHD symptoms in childhood is advised, before children become vulnerable to child abuse. Intervention could therefore, start before the adolescents become victims of abuse.

More use should be made of assessment tools for assessing ADHD symptoms, especially tools that measure areas of inattention and hyperactivity/ impulsiveness in order to predict history of child abuse. This will be essential in assisting clinicians to link child abuse with specific ADHD key symptoms.

8.6. Suggestions for further research

Future studies in this area will need to be focused on already ADHD diagnosed adolescents and compare them with non ADHD individuals to ascertain the differences in forms of child abuse that exist between the two groups as a function of the disorder. Also more sources should be included as teachers, parents, social workers and psychologists.

The sample will need to include learners from other grades, other schools and other populations (ethnic groups) as well, in order to look at a comprehensive history of child abuse from all adolescents.

8.7. Conclusion

In conclusion, the results of the current study support the hypothesis that there is a relationship between ADHD symptoms (inattention and hyperactivity/impulsivity) and various forms of child abuse (emotional abuse, neglect, physical abuse and sexual abuse) in children and adolescents. Studies so far have indicated that ADHD may be aggravated by many psychosocial and environmental factors such as family substance abuse history and low socioeconomic status that potentially contribute to poor outcome of childhood ADHD (De Sanctis, Trampush, Harty, Marks, Newcorn, Miller et al., 2008). ADHD thus far has been linked to various factors in the family environment that correlate significantly with childhood mental disturbances (Biederman & Faraone, 2005).

Overall, the findings here regarding linkages between ADHD symptoms and abuse histories found that adolescents who show symptoms of ADHD (inattention and hyperactivity/impulsiveness) as children and histories of child abuse. Childhood ADHD symptoms and abuse histories are recognized as risk factors for criminality (Matsumoto & Imamura, 2007).

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UNIVERSITY OF LIMPOPO

Turfloop Campus

School of Social Sciences



Private Bag x 1106
Sovenga
0727
SOUTH AFRICA
Tel: 015) 268 3020
Fax: 015 268 3020
Email: meyera@ul.ac.za
Website: www.ul.ac.za

**The Principal
Mountain View Secondary School
Mankweng**

Dear Sir

ADHD in the Limpopo Province

Attention Deficit/Hyperactivity Disorder or ADHD is a developmental disorder, which affects between 2% and 5% of primary school children. It consists of problems with impulse control, attention span, and activity level. However, it is much more than a matter of being inattentive and overactive. The disorder is an obstacle to benefit from normal educational methods and to form acceptable social relations. It is not a temporary state that will be outgrown, for most of the children will still be suffering as adolescents and adults. The disorder is more common in boys than in girls.

The child usually is disorganised, has problems with planning his/her activities and may be very forgetful. There are severe problems with sustained attention, especially in the classroom situation. The child also has problems with sitting still, is overactive and fidgeting. Problems with gross and fine motor co-ordination are frequent.

The cause of ADHD is not known yet, but research suggests a genetic origin. Pollutants and poor nutrition may also play a role. It is not caused by failure to discipline or control the child. Research has shown that children with low birth weight are at risk of developing this disorder, as the disorder is four times more prevalent in these children.

ADHD children not diagnosed and treated at an early age, are at risk for future delinquent behaviour, psychiatric problems and substance abuse. The financial costs for the society will be considerable. The families of these children experience undue stress and it has severe impact on academic activities at schools.

The aim of the present study is to establish a relationship between the symptoms of ADHD and various forms of child abuse as reported by the child.

Method:

If you should agree in participating in this project, the researcher will visit your school and screen the children symptoms of ADHD. The children will complete a questionnaire on a history of various forms of abuse and symptoms of ADHD. The questionnaire comprises of:

- Biographical data questionnaire
- Disruptive Behaviour Disorders Rating Scale
- Tests for fine motor co-ordination
- Test for planning abilities
- Test for overactivity, impulsiveness and impaired sustained attention.

The data will be used for statistical analysis only and in no circumstances will the identity of the child and the school be revealed. The children selected will not necessarily be suffering from ADHD.

Thank you for your collaboration.

NP Sebopelo
Researcher



Prof. JA Meyer
Project Leader

Appendix B: Biographical Information and Barkley's Symptoms Scale for Adolescents

ID _____

**IMPULSIVENESS IN ADOLESCENTS WITH ATTENTION DEFICIT
HYPERACTIVITY (ADHD)**

Do not write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions on what you really do. If you are not comfortable answering a question, just leave it blank. Make sure to read every question.

Thank you very much for your help!

Section A – Biographical Information

Age.....

Gender (circle) M F

Home language.....

In which grade are you? (Mark with X)

Grade 8	
Grade 9	
Grade 10	
Grade 11	
Grade 12	

1. Did you have any serious childhood illnesses/ diseases/ major surgeries?

yes/no

If yes, please give details:

2. Did you have any problems getting along with other children when you were a child?

yes/no

If yes, give details:

3. Please place a checkmark beside any of the following areas in which you believe you had significant difficulties:

Defiant		Aggressive		Inattentive		Anxious	
Overactive		Impulsive		Depressed		Fighting	
Shy		Withdrawn		Stealing		Clumsiness	
Fearful		Lying		Memory		Stubborn	
Learning		Language		Toilet Training		Distractible	
Sleeping		Eating		Destructive		Strange ideas	

Health History:

4. Have you ever had the following?

Type of Problem	During Childhood	Currently
Allergies/ asthma		
Heart problems		
Epilepsy or seizures		
High blood pressure		
Serious head injury		
Injury resulting in loss of consciousness		
Lead poisoning		
Broken bones		
Surgery		
Migraine headaches		
Thyroid condition		
Problems with vision		
Problems with hearing		
Diabetes		
Any other serious medical problems (explain)		

5. Are you currently taking any medications? yes/no

If yes, please give details:

.....

6. Please describe any other health difficulties you have experienced now or in the past:

.....

Social History:

7. How would you describe your mood most of the time? (Circle)

- a. cheerful/ happy b. sad/ depressed c. changes all the time
d. anxious/ nervous e. angry/ irritable d. bland/ unfeeling

8 Do your moods changes very frequently, abruptly, and/ or unpredictably? yes/no

If yes, please give details:

9. Do you have trouble making friends? yes/no

10. Do you have trouble-keeping friends? yes/no

11. Do you have trouble in your relationships with others yes/no

12. Do you have problems with your temper? yes/no

If yes, give details:

13 .How many times did your family move during your childhood and adolescent years?.....

Section B: Barkley's Symptoms Scale for Adolescents

Current Symptoms scale

Instruction: Please circle the number next to each item that best describes your behaviour during the past 6 months.

Items	Never rarely	or	Sometimes	Often	Very often
1. Fail to give close attention to details or make careless mistakes in my work	0		1	2	3
2. Fidget with hands or feet or squirm in seat	0		1	2	3
3. Have difficulty sustaining my attention in tasks or fun activities	0		1	2	3
4. Leave my seat in situations in which seating is expected	0		1	2	3
5. Don't listen when spoken to directly	0		1	2	3
6. Feel restless	0		1	2	3
7. Don't follow through on instructions and fail to finish work	0		1	2	3
8. Have difficulty engaging in leisure activities or doing fun things quietly	0		1	2	3
9. Have difficulty organizing tasks and activities	0		1	2	3
10. Feel "on the go" or "drive by a motor"	0		1	2	3
11. Avoid, dislike, or am reluctant to engage in work that requires sustained mental effort	0		1	2	3
12. Talk excessively	0		1	2	3
13. Lose things necessary for tasks or activities	0		1	2	3
14. Blurt out answers before questions have been completed	0		1	2	3
15. Am easily distracted	0		1	2	3
16. Have difficulty awaiting	0		1	2	3
17. Am forgetful in daily activities	0		1	2	3
18. Interrupt or intrude on others	0		1	2	3

How old were you when these problems with attention, impulsiveness, or hyperactivity first began to occur? years old.

To what extent do the problems you may have circled on the previous page interfere with your ability to function in each of these areas of life activities?

Areas	Never or rarely	Sometimes	Often	Very Often
In my home life wit my immediate family	0	1	2	3
`In my work or occupation	0	1	2	3
In my social interactions with others	0	1	2	3
In my activities or dealings in the community	0	1	2	3
In any educational activities	0	1	2	3
In my dating or marital relationship	0	1	2	3
In my management of my money	0	1	2	3
In my driving of a motor vehicle	0	1	2	3
In my leisure or recreational activities	0	1	2	3
In my management of my daily responsibilities	0	1	2	3

Appendix C: Child Maltreatment Interview Schedule

ID: _____

A QUESTIONNAIRE ON CHILDHOOD ABUSE

Please fill-in the questionnaire as honestly as possible. There is no right or wrong answer. Just answer the questions spontaneously. If possible, don't allow any body to see your responses to the questions. Some questions may be very private, but be rest assured that your responses shall be handled anonymously and confidentially.

Section A

1. Sex: Female _____
Male _____
2. Age _____
3. Place of Residence _____

Section B

1. Ethnic Group _____
2. Religion _____
3. Occupation of father? _____
4. Occupation of mother? _____
5. Highest Educational Level of father? _____
6. Highest Educational Level of mother? _____
7. Approximate Income per annum of father? R _____
8. Approximate Income per annum of mother? R _____
9. Are your parents: Living together _____ Divorced _____ Separated _____ Separated
by death _____
10. Did you grow up living together with: Both of your parents _____ Only your
mother _____ Only your father _____ None of your parents _____
11. Did you grow up living together with a stepparent? Yes
No
12. How do you rate violence in your parent's home? Seldom _____
At times _____
Very often _____
13. How many good friends do you have? 1 or 2
More than 2

Section C (Parental Physical Availability)

1. Did your natural (biological) mother live with you until you were at least 13 years old? Yes
No
2. Did your natural (biological) father live with you until you were at least 13 years old? Yes
No

3. Until you were at least 13 years old, did you ever have a stepmother or adoptive mother?
 Yes
 No
4. Until you were at least 13 years old, did you ever have a stepfather or adoptive father?
 Yes
 No
5. Until you were at least 13 years old, did you ever have foster parents?
 Yes
 No
6. Until you were at least 13 years old, were you raised by any other adults?
 Yes
 No
7. Until you were at least 13 years old, did you ever live in a "group home"?
 Yes
 No
8. Until you were at least 13 years old, were you ever in a juvenile detention facility (e.g. "juvenile hall", "youth authority")?
 Yes
 No

Section D (Parental Disorder)

1. Did one of your parents or stepparents or foster parents ever have to go into a psychiatric hospital for psychiatric problem?
 Yes
 No
2. Other than being in a psychiatric hospital, did one of your parents/ stepparents ever receive psychotherapy or psychiatric medication ?
 Yes
 No
3. Did you ever feel you were being mistreated because of your parent or parents having psychiatric problems?
 Yes
 No
4. Did one of your parents or stepparents or foster parents ever have problems with drugs or alcohol?
 Yes
 No
- If yes,; did this ever result in either parent having medical problems, getting divorced or separated, being fired from work, or being arrested for intoxication in public or while driving ?;
 Yes
 No

5. Did you ever feel you were being mistreated because of your parent or parents' drug or alcohol problems?

Yes

No

6. Did you ever see one of your parents hit or beat up your other parent?

Yes

No

If yes: How many times can you recall this happening,

_____times

Did your father ever hit your mother?

Yes

No

Did your mother ever hit your father?

Yes

No

Did one or more of these times result in someone bleeding, needing medical care, or the police being called?

Yes

No

Section E (Parental Love and Care)

1. On average, before age 8, how much did you feel that your father/step-father/foster father loved and cared about you ?

Not at all

A bit

Very much

2. On average, before age 8, how much did you feel that your mother/step-mother/foster mother loved and cared about you ?

Not at all

A bit

Very much

3. On average, from age 8 through age 16, how much did you feel that your father/step-father/foster father loved and cared about you?

Not at all

A bit

Very much

4. On average, from age 8 through age 16, how much did you feel that your mother/step-mother/foster mother loved and cared about you?

Not at all
A bit
Very much

Section F (Psychological Abuse)

Verbal arguments and punishment can range from quiet disagreement yelling, insulting, and other more extreme behaviour. When you were 16 or younger, how often did the following happen to you in the average year? Answer for your parents or stepparents or foster parents or other adult charge of you as a child:

		Never	Once	Twice	3-5 times	6-10 times	11-20 times	20+ times
1	Yell at you							
2	Insult you							
3	Criticise you							
4	Try to make you feel guilty							
5	Ridicule or humiliate you							
6	Embarrass you in front of others							
7	Make you feel like you were a bad person							

Section G (Physical Abuse)

Did a parent or stepparent or foster parent or other adult in charge of you as a child ever:

1. Do something on purpose to you (for example, hit or punch or cut you, or push you down) that gave you bruises or scratches, broke bones or teeth, or made you bleed?

Yes
No

2. Hurt you so badly that you had to see a doctor or go to the hospital?

Yes
No

Section H (Emotional Abuse)

Did a parent or other adult who was in charge of your care ever:

1. Lock you in a shed, cupboard, or other small space?

Yes
No

2. Tie you up or chain you to something?

Yes
No

3. Threaten to hurt or kill you?

Yes
No

4. Threaten to hurt or kill someone you cared about? Yes
No
5. Threaten to hurt or kill your pet? Yes
No
6. Threaten to leave you somewhere that frightened you or where you wouldn't be able to get back home? Yes
No
7. Threaten to leave and never come back? Yes
No

Section I (Sexual Abuse)

1. Did anyone five or more years older than you were, or a person in position of power ever kiss you in a sexual way? Yes
No

If yes, with whom? (check all that apply)

Father Mother Brother Sister Uncle Aunt A friend A stranger A baby-sitter or nanny A teacher A doctor Other professional .

- Did anyone ever use physical force on any of these occasions? Yes
No

If yes, who? _____

2. Did anyone 5 or more years older than you were or a person in position of power ever touch your body in a sexual way, or make you touch their sexual parts? Yes
No

If yes, who? (check all that apply)

Father Mother Brother Sister Uncle Aunt A friend A stranger A baby-sitter or nanny A teacher A doctor Other professional .

- Did anyone ever use physical force on any of these occasions? Yes
No

If yes, who? _____

3. Did anyone 5 or more years older than you were or a person in position of power ever had oral, anal, or vaginal intercourse with you, or place their finger or objects in your anus or vagina?

Yes

No

If yes, with whom? (check all that apply)

Father Mother Brother Sister Uncle Aunt A friend A stranger A baby-sitter or nanny A teacher A doctor Other professional .

Did anyone ever use physical force on any of these occasions?

Yes

No

If yes, who? _____

Any other information about abusive sexual contact?

Section J (Ritualistic Abuse)

1. Were there ever times when you were 16 or younger that you were tortured, repeatedly hurt, or forced to do something sexual during some sort of meeting, ritual, cult gathering, or religious activity?

Yes

No

2. Were you ever forced to watch this happen to somebody else?

Yes

No

Section K (Perceptions of Abuse Status)

1. To the best of your knowledge, would you say that you were sexually abused as a child?

Yes

No

2. Would you say that you were abused in any way as a child?

Yes

No

3. In overall, how would you rate your childhood?

Very Happy

Average

Very Unhappy