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The Attitudes of General Practitioners in Private Practice Towards Adult Attention-Deficit/Hyperactivity Disorder

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Abstract

Although ADHD has recently become more recognised as a disorder that persists into adulthood, the diagnosis and prevalence of the disorder remains controversial. ADHD is one of the most frequently diagnosed disorders in childhood, but is not commonly diagnosed or treated in adulthood. As general practitioners are often the initial point of contact for patients concerned that they may suffer from a mental health disorder, the perceptions and practices that general practitioners follow regarding ADHD are of key importance. The study aimed to provide insight into the attitudes held by general practitioners toward adult ADHD and to explore their practices when diagnosing and treating the disorder. The study adopted a qualitative research design incorporating individual interviews conducted with eight general practitioners in South Africa. Thematic content analysis was used to analyse the data and derive themes relating to the attitudes toward adult ADHD and the practices followed. Results indicate that general practitioners in South Africa acknowledge ADHD as a disorder that persists into adulthood, which can affect the functioning of patients and requires effective treatment. However, general practitioners consider ADHD difficult to diagnose on a day-to-day basis as a result of several factors including time constraints, the subjective nature of the diagnosis as well as a lack of training and knowledge of the disorder. These findings indicate that adult ADHD is mostly self-diagnosed by patients who then approach their general practitioners for help. Thus, the current study highlights the importance of public awareness of the disorder to enable patients to approach their general practitioners and to raise their concerns of the possibility of having ADHD.

Declaration

I declare that this research report entitled "The Attitudes of General Practitioners in Private Practice toward Adult Attention-Deficit/Hyperactivity Disorder" is my own, unaided work except where I have explicitly stated otherwise. This report is being submitted for the degree of Master of Arts in Community-Based Counselling Psychology at the University of the Witwatersrand. It has not been submitted before for any degree or examination at any other university.

_____

Téhne-Brigitte Wright

_____day of _____2015

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Table of Abbreviations

ADD	Attention Deficit Disorder
ADHD	Attention-Deficit/Hyperactivity Disorder
APA	American Psychiatric Association
CAARS	Conner's Adult ADHD Rating Scales
CBT	Cognitive Behavioural Therapy
CD	Conduct Disorder
CEU	Continuing Education Units
DSM	Diagnostic and Statistical Manual of Mental Disorders
EF	Executive Function
GP	General Practitioner
HPCSA	Health Professions Council of South Africa
ODD	Oppositional Defiant Disorder

Chapter 1: Introduction

The diagnosis and prevalence of Attention-Deficit/Hyperactivity Disorder (ADHD) in adults has long been a topic of great controversy in literature as some professionals continue to question the very existence of ADHD in adults, while others advocate its persistence and clinical importance. This controversy and doubt in the minds of the public and health professionals regarding adult ADHD may be the product of potentially misguided research in combination with reports in popular media. As a result, the diagnostic validity of adult ADHD has often come into question, leading to uncertainty surrounding the diagnosis of adult ADHD which may have influenced the attitudes and perceptions of many toward the disorder.

ADHD is one of the most frequently diagnosed psychiatric disorders in childhood with an estimated prevalence rate of 3–7% in school-aged children (American Psychiatric Association (APA), 2000; Mannuzza, Klein & Moulton, 2003). Though it was previously considered a childhood disorder that does not persist into adulthood, an increasing body of literature supports the notion that ADHD is indeed a lifespan disorder (Spencer, Biederman & Mick, 2007). Furthermore, several twin and adoption studies have confirmed the familiarity of ADHD as rates of ADHD among biological relatives are higher than those of adopted relatives. Twin studies have further shown that ADHD has a mean heritability estimate of 76%, which indicates that ADHD is one of the most heritable psychiatric disorders (Faraone et al., 2005; Sprich, Biederman, Crawford, Mundy & Faraone, 2000). Additionally, children with ADHD display neuroanatomical differences from children without ADHD. Areas of the brain, including the basal ganglia, cerebellum and corpus callosum, in children with ADHD have been shown to be substantially smaller or anatomically different from those in patients without ADHD (Valera, Faraone, Biederman, Poldrack & Seidman, 2005). Although some structures of the brain may normalise over time, evidence suggests that other areas, specifically cerebellar

regions, are similarly affected in adults and children, indicating an inevitable continuance of the disorder from childhood into adulthood (Castellanos et al., 2002).

Adult ADHD was first mentioned in the text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM) III in 1987. The text revision renamed the disorder to ADHD from Attention-Deficit Disorder (ADD) in order to highlight that hyperactivity is a possibility of the disorder but not necessarily mandatory (APA, 1987; Conrad & Potter, 2000). Thereafter, the DSM-IV described ADHD as a disorder involving symptoms of inattention, hyperactivity and impulsivity (APA, 1994). ADHD was further diagnostically categorised into three subtypes: the predominantly inattentive, predominantly hyperactive and a combined type (APA, 1994).

The diagnosis of adult ADHD using the DSM-IV has been a complex matter due to a lack of specific adult diagnostic criteria, as a single set of criteria is provided which is applied to both adults and children alike (APA, 1994). The lack of clearly defined guidelines in the DSM-IV pertaining to the diagnosis of adults results in much room for interpretation by medical practitioners. The decision of how to diagnose adult ADHD is ultimately a subjective one and the diagnosis depends on how stringently the practitioner adheres to the DSM diagnostic criteria (Faraone, Sergeant, Gillberg & Biederman, 2003). Additional diagnostic difficulties that clinicians face include the requirement of a history of childhood ADHD which is often hard to establish, as well as high rates of comorbidity with other mental disorders including Major Depressive Disorder, General Anxiety Disorder and Substance Use Disorders (APA, 1994; Shaffer, 1994).

With approximately one-third of general practitioners' (GPs') consultations consisting of mental health components, the detection, diagnosis and subsequent treatment of the disorder often depends on GPs (Wittchen, Mühlig & Beesdo, 2003). However, GPs worldwide report that their training with regard to ADHD is inadequate and this may cause uncertainty and

hesitancy in terms of diagnosing and treating ADHD (Salt, Parkes & Scammell, 2005; Weiss & Weiss, 2004). There is a possibility that the lack of training and knowledge with regard to adult ADHD may prevent them from accurately diagnosing the disorder. GPs' perceptions of ADHD may greatly influence their willingness to diagnose the disorder. ADHD is at times perceived by GPs as a variation of normal behaviour that the APA transformed into a medical diagnosis which is seen as over-diagnosed and often misdiagnosed by many medical practitioners (Shaw, Wagner, Eastwood & Mitchell, 2003). GPs have also been found to have misconceptions regarding the causes of ADHD, attributing the disorder to poor diet, social and familial factors such as poor parenting styles, general lack of discipline in childhood and a breakdown of community support (Shaw et al., 2003). As a result of misconceptions surrounding the causes of ADHD, or inadequate training, many adults may go untreated. The appropriate diagnosis and treatment of adults with ADHD is essential as it has been shown that adults who are diagnosed with ADHD experience feelings of relief as the diagnosis provides an explanation for problems throughout their lifetime and various forms of treatment can help to alleviate symptoms they experience (Asherson, 2005).

Research Aims

This study aims to provide insight into the attitudes held by GPs in private practice in South Africa toward adult ADHD. Furthermore, the study aims to find out more about GPs' views surrounding the current diagnostic criteria and how they approach diagnosing ADHD in adults. Finally, the study aims to explore treatment methods recommended by GPs and the motivation for the recommendations.

Research Questions

The present study was guided by the following research questions:

- What are the beliefs and practices of GPs toward adult ADHD?
- What are GPs' views regarding the diagnosis and treatment of adult ADHD?

Rationale

Studies focusing on GPs' attitudes toward adult ADHD are sparse and those available have largely focused on childhood ADHD (Shaw, Mitchell, Wagner & Eastwood, 2002; Shaw et al., 2003; Venter, van der Linde, du Plessis & Joubert, 2004). To the best of the researcher's knowledge, the available studies on the diagnosis of adult ADHD were done approximately 10 years ago and call for follow-up studies to ascertain whether the awareness surrounding adult ADHD has improved (Adler, Shaw, Sitt, Maya & Morrill, 2009).

Despite the increased recognition of adult ADHD as a psychiatric disorder in recent times, it is not commonly diagnosed nor treated by mental health-care practitioners (Young, Toone & Tyson, 2003). As consultations with specialists are often more costly than consultations with GPs due to their specialist expertise within their relevant fields, members of the public are encouraged by the media as well as medical aid providers to visit GPs prior to visiting specialists as a means of saving costs ("Your GP can save you money", 2013). Within the South African context, GPs may be more accessible for individuals who utilise the private sector but cannot afford, or are unwilling to pay the rates of specialists such as psychiatrists. Thus, GPs are often the initial point of contact for people concerned that they may suffer from a mental health problem; hence, they may have the potential to diagnose ADHD in adults more frequently (Faraone & Antshel, 2008; Rickwood, Deane & Wilson, 2007). Additionally, as awareness of the disorder in adulthood grows and a rising number of patients present with the disorder, there is a call for GPs to be able to identify and manage the patients who have less

severe symptoms, and to identify and refer patients who have severe symptoms (Shaw et al., 2003).

As the responsibility of initial detection of a mental health disorder often falls on GPs, the perceptions that they hold of a particular disorder become of key importance. Most GPs are confident in diagnosing disorders such as Generalised Anxiety Disorder and Major Depression, but are uncertain regarding the diagnosis of adult ADHD, particularly when there is no prior diagnosis of the disorder in childhood (Adler et al., 2009; Faraone, Spencer, Montano & Biederman, 2004). This may be due to a lack of training regarding the disorder or a lack of awareness of the validity of ADHD as diagnosis in adults (Adler et al., 2009; Faraone et al., 2004). Furthermore, recent findings that less than 50% of GPs consider ADHD to be a lifelong disorder is a strong motivating factor to explore the attitudes that inform those beliefs (Ghanizadeh & Zarei, 2010; Hirfanoğlu, Soysal, Gücüyener, Cansu & Serdaroğlu, 2008; Lian, Ho, Yeo & Ho, 2003).

Adult ADHD is highly treatable if diagnosed timeously and properly. However, GPs in South Africa and around the world feel ill-equipped to diagnose adult ADHD and many are often unaware of the causes of ADHD (Louw, Oswald & Perold, 2009). Although several effective pharmacological and non-pharmacological treatments are available for adults with ADHD, under-recognition and lack of diagnosis often lead to failure in treating the disorder (Bolea et al., 2012; Montano, 2004). If ADHD is left undetected by primary practitioners, the disorder may go untreated and affected adults may experience impaired functioning within their social environments as well as within their occupational context.

Chapter 2: Literature Review

ADHD has historically been considered a diagnosis appropriate for childhood and adolescents, but less often a disorder applicable to adults. The effects of these perceptions may have far-reaching consequences in that they may lead clinicians worldwide to overlook this disorder which is prevalent and often disabling in adulthood (Shaffer, 1994). Although rates of the prevalence of ADHD vary, it is thought to persist into adulthood in 30 to 80% of children diagnosed with ADHD and to affect 1 to 6% of the general population (Davidson, 2008; Wender, Wolf & Wasserstein, 2001). Longitudinal studies have shown ADHD to persist into young adulthood in 58% of participants when DSM-IV diagnostic criteria are utilised (Barkley, Fischer, Smallish & Fletcher, 2002). South African studies indicate significant prevalence rates, suggesting that ADHD continues into adulthood in 36% of individuals diagnosed with ADHD as children (Mahomedy, van der Westhuizen, van der Linde & Coetsee, 2007).

The first section of the literature review focuses on what ADHD is and how it is diagnosed according to the DSM-IV. Thereafter, the presentation of ADHD in adulthood and the impact the disorder has on affected individuals is explored. Subsequently, the aetiology of the disorder is explored in order to better understand the causes of the disorder. The focus of the literature review then moves to the difficulties medical practitioners face when attempting to diagnose the disorder which includes differentiating ADHD from comorbid disorders. Common treatments and management of the disorder are then reviewed, before GPs' perceptions of ADHD, and the diagnosis and management thereof are explored. Finally, the focus of the current research is on the DSM-IV as participants were not yet using the DSM-5 for diagnostic purposes. The DSM-5 was released in May 2013 and made significant changes to the diagnostic criteria of ADHD, particularly in regard to the diagnosis of adult ADHD.

Overview of ADHD within the DSM-IV.

The disorder is characterised by persistent symptoms of inattention and/or hyperactivity-impulsivity that must cause impairment in at least two settings such as at home and at school or work. Some symptoms must have been present before the age of 7 (APA, 1994). The DSM-IV distinguishes between three observable subtypes of ADHD: predominantly inattentive, predominantly hyperactive-impulsive and a combined type. These subtypes are manifestations of the same disorder and appear to be fluid as individuals first diagnosed with the inattentive or hyperactive-impulsive subtypes may develop the combined type and vice versa. Diagnosis of the specific subtype of ADHD should thus be based on symptoms prevalent in the past six months. Furthermore, the diagnostic criteria prescribe that the individual is excluded from a diagnosis of ADHD by the presence of psychotic disorders or if the symptoms could be more appropriately accounted for by another mental disorder (APA, 1994; Sadock & Sadock, 2007). In order to be diagnosed with ADHD, patients need to display a minimum of six symptoms of inattention *or* hyperactivity-impulsivity. For a diagnosis of the combined type, a minimum of six symptoms within both categories must be met (APA, 1994).

As discussed in the DSM-IV, individuals displaying symptoms of inattention may commonly overlook details or make careless mistakes while completing academic work or other tasks. Inattention may manifest in hastily carrying out work which lacks the required thought and effort, resulting in work which appears untidy. Such individuals may experience substantial difficulty sustaining attention, while completing tasks that are perceived to be boring, and they may struggle to persist with tasks until the time of completion as they continuously switch between tasks as their attention diminishes. Individuals experiencing symptoms of inattention often experience tasks that require sustained mental attention as unpleasant and often avoid them (APA, 1994).

In contrast, hyperactivity may manifest as an inability to sit still or a *fidgetiness*, having excessive energy, talking excessively and appearing as being constantly on the go. Impulsivity often presents in conjunction with hyperactivity and is expressed as impatience, an inability to wait one's turn, continuous interruption of others or an inability to wait until a question has been completed before blurting out the answer. These symptoms often result in difficulties within school, occupation or social settings as the individual appears to be constantly intruding on others and commenting out of turn (APA, 1994).

Diagnostic Difficulties

Literature on ADHD in adults describes a variety of difficulties associated with the DSM-IV diagnosis of the disorder in adulthood. The symptoms described in the DSM-IV are based on children aged 4 to 17 but are used as a diagnostic criteria for all ages (Wasserstein, 2005). The diagnostic criteria were specifically developed to assess children for the disorder and research conducted on school-aged children formed the basis of the diagnostic criteria. However, large-scale validation studies were not conducted in order to ascertain the suitability of the diagnostic criteria in adults and very few symptoms in the DSM-IV appear appropriate for adult diagnosis (Belendiuk, Clarke, Chronis & Raggi, 2007; McGough & Barkley, 2004). As the DSM-IV criteria fail to take developmental changes into account, symptoms commonly reported by adults with ADHD are not included in the criteria and as a result adults who display significant impairments are overlooked (McGough & Barkley, 2004). Unique symptoms which are commonly overlooked in adults include: procrastination, low frustration tolerance, time management difficulties and mood instability (Asherson, 2005; Asherson et al., 2012; Davidson, 2008). As such, adults may appear to "outgrow" ADHD as they do not meet the full diagnostic criteria, when in fact they continue to be affected by many of the symptoms. Without specific inclusion criteria for the diagnosis of adult ADHD, medical practitioners are unsure of how stringent to be when adapting the criteria to suit adult diagnosis. As a result,

rates of diagnosis vary widely and practitioners are unsure of who should be treated (Wender et al., 2001).

Belendiuk et al. (2007) describe the prescribed age of onset of before 7 years as set out by the DSM-IV-TR as seemingly arbitrary and lacking empirical evidence. However, as many models conceptualise ADHD as a disorder which originates in childhood, an early history of inattention and hyperactivity were felt to be essential diagnostic indicators by creators of the DSM-IV (Shaffer, 1994; Wood, Reimherr, Wender & Johnson, 1976). The requirement of a history of childhood ADHD creates further challenges in diagnosis for clinicians. Adult patients are required to be retrospective in terms of their childhood behaviour when practitioners attempt to diagnose adult ADHD (Asherson, 2005). These patients are likely to inaccurately recall events, moods and behaviours from childhood as individuals are rarely able to provide accurate accounts of their own childhood behaviours before the age of 10 (Asherson, 2005). Retrospection required for inquiries to confirm the degree of intensity of various symptoms may prove to be particularly challenging for patients as memories may be imprecise (Shaffer, 1994).

To illustrate the difficulties surrounding retrospection, and account for discrepancies in rates of diagnosis in adulthood, Mannuzza, Klein, Bessler, Malloy and LaPadula (1993) reviewed several follow-up studies on adults who were hyperactive children and found discrepancies in recollection of behaviour and mood. One-fifth of the sample were unable to recall being hyperactive as children despite the severity of their symptoms and subsequent treatment of the symptoms. It has thus been recommended that when diagnosing ADHD in adulthood it may be far more useful to assess the current symptomology before practitioners ask whether the symptoms have been persistent since childhood (Mannuzza et al., 2003). Diagnosis may also be more accurate if collateral information can be obtained from a relative, caregiver or teacher. While this may be possible for young adults, it may prove impractical or

not viable for adults questioning a diagnosis of ADHD later in life (Asherson, 2005). Barkley and Biederman (1997) fervently advocated for dispensing with a precise age of onset for ADHD. The prescribed age was viewed as scientifically indefensible by the authors and was seen to create barriers to studies in ADHD in adulthood. Studies have been unable to provide support for or identify any usefulness of the criterion for diagnostic purposes and therefore conclude that the criterion should be broadened, or abandoned altogether (Barkley & Biederman, 1997). By strictly adhering to the full diagnostic criteria when diagnosing adults, it is thought that patients who would benefit from treatment for ADHD would be under-identified (Biederman, Mick & Faraone, 2000). The requirement that adults meet six of nine symptoms within either the hyperactive-impulsive or inattentive subtype within the DSM-IV was found to be statistically extreme (Murphy & Barkley, 1996). Studies have shown that a patient meeting four symptoms as opposed to the prerequisite of six should be considered adequate and more appropriate (Kooij et al., 2005; Murphy & Barkley, 1996). Asherson et al. (2012) concur that a four-symptom threshold for adult ADHD diagnosis is appropriate as it would still indicate significant impairment in many patients.

Comorbidity

The high rates of comorbidity among adults with ADHD complicate the diagnosis further. Adults with ADHD are at greater risk for comorbid psychopathology and most have at least one comorbid psychiatric disorder (McGough et al., 2005). As such a presenting comorbidity could raise practitioners' suspicion of a diagnosis of ADHD in adulthood (Montano, 2004). Among children and adults with ADHD all subtypes have been shown to display more severe co-occurring DSM IV psychiatric symptoms than individuals diagnosed with other psychiatric disorders other than ADHD. However, the combined subtype has been found to show more severe comorbid symptoms than other subtypes of ADHD (Sprafkin, Gadow, Weiss, Schneider & Nolan, 2007). Mood disorders are considered to be one of the

most commonly occurring comorbid disorders with ADHD, with rates of Major Depressive Disorder ranging from 11.5% to 53.5%. (Moss, Nair, Vallarino & Wang, 2007). Sprafkin et al. (2007) warn against previous studies on comorbidity among those with ADHD as many studies appear to utilise clinically referred samples, which is likely to inflate the proportion of psychopathology. In order to produce results which may be more reflective of the general population, a study was conducted to compare psychiatric comorbidity between the three subtypes of ADHD of clinic samples and a non-referred community sample of adults with ADHD (Sprafkin et al., 2007). Oppositional Defiant Disorder (ODD), Conduct Disorder (CD) and Substance Use Disorders were significantly associated with the participants who fell into the hyperactive-impulsive subgroup, especially in male participants. Though participants who fell within the inattentive subgroup of ADHD displayed far fewer co-occurring symptoms of psychopathology than the other subtypes of ADHD, they nevertheless display higher symptom ratings than the non-ADHD clinical control group. This study shows similar results to an earlier study of 172 adults with ADHD by Murphy and Barkley (1996). Their findings indicated significantly higher prevalence rates of ODD, CD and Substance Use Disorders in clinically referred adults than non-ADHD controls. The study however, did not investigate differences in comorbidity between subtypes of ADHD.

Much of our current understanding of psychiatric comorbidity of adults with ADHD is informed by longitudinal studies conducted on participants who were diagnosed as children. These results show high rates of ODD, CD, Antisocial Personality Disorder and Substance Use Disorders (Biederman et al., 1993; Mannuzza et al., 1993). These results mirror the findings of several other studies including McGough et al. (2005) who found that participants whose ADHD persisted into adulthood displayed significantly higher rates of ODD and Substance Use Disorders particularly in participants within the hyperactive/impulsivity and combined subtypes than the inattentive subtypes. However, when looking at comorbidity in participants

who present with ADHD as adults results appear quite different. One such study by Shekim, Asarnow, Hess, Zaucha, and Wheeler (1990), found that 53% of adults presenting with ADHD also presented with generalised anxiety, 34% with alcohol abuse or dependence, 30% presented with substance abuse or dependence and 25% with dysthymia. Substance abuse is a commonly reported problem by adults with ADHD, where substances such as alcohol and cannabis are most frequently abused (Gjervan, Torgersen, Nordahl & Rasmussen, 2012). It is well documented that adults with ADHD show a greater risk for substance abuse than those without ADHD. Adults with ADHD begin using substances at an earlier age and use substances more often than adults without ADHD (Wilens, 2004). When combined with other comorbid psychiatric conditions the risk for substance abuse increases substantially (Wilens, 2004). Research indicates that self-medication may be a possible cause of the increased rates of substance abuse in adults with ADHD (Wilens, 2004). Substance abuse may further mask the diagnosis of ADHD in adulthood as practitioners may overlook the ADHD as a primary diagnosis and focus on substance use/abuse.

It remains unclear whether ADHD and the comorbid disorder may represent different facets of the same disorder, or whether they remain independent of one another (Adler, Spencer, Stein & Newcorn, 2008). However, it appears that some comorbid conditions may be a function of the symptoms and impact of ADHD. Kooij et al. (2012) use the example of an individual who has performed continuously badly through work and school, which could lead to feelings of failure and/or depression.

Presentation of ADHD in Adulthood

The core symptoms of inattention, hyperactivity and impulsivity can be seen throughout the life cycle of those diagnosed with ADHD. However, symptoms of hyperactivity tend to decrease in severity while inattention and distractibility linger (Biederman, 2005). These core symptoms impact negatively across multiple areas of functioning in adults with ADHD and

substantially impact quality of life. Additionally, symptoms of ADHD and the associated functional impairments interact with one another and additional symptoms, creating a cumulative effect which results in ADHD being not just a mental disorder, but also a way of life that the affected individual needs to adjust and adapt to on a daily basis (Brod, Perwien, Adler, Spencer & Johnston, 2005).

Inattention is the most enduring and prominent symptom and is evident in the majority of adults with ADHD. Symptoms of inattention include: trouble sustaining attention, difficulty with sustained mental effort and being easily distracted. In a study of 107 adults with ADHD, symptoms of inattention were found to be overwhelmingly more commonly reported by adults than hyperactive symptoms. Using DSM-IV criteria, 93% of adults presented with the predominantly inattentive subtype or combined subtype of ADHD (Wilens et al., 2009).

As adults move from educational settings into the workplace the constant struggle in sustaining attention tends to cause severe difficulties as organisational demands increase (Asherson, 2005). Organisational underperformance is common as inattention causes difficulty in following instructions and an inability to prioritise tasks (Barkley & Murphy, 2010). Tasks that require sustained mental effort prove very challenging for these individuals and as a result, they often shy away from such activities. Inattention further results in forgetfulness, leading to frustration from managers and colleagues because appointments and deadlines are overlooked. Brod et al. (2005) found that productivity and efficacy when completing a task were a challenge for all participants they interviewed. This lack of productivity has been attributed to procrastination, ineffective time management, disorganisation and difficulty learning or remembering new material. Thus, adults with ADHD are often left feeling that they never quite accomplish as much as they would like to. Inattention also affects home and family life as partners may become frustrated at the lack of occupational progress on the part of the affected individual. It is also commonly reported that bills are often

left unpaid which leads to further stress and frustration within the family (APA, 2000; Brod et al., 2005).

Though symptoms of hyperactivity are thought to decrease in adulthood, contradicting studies have shown that up to 56% of adults with ADHD continue to report symptoms of hyperactivity (Brod, Pohlman, Lasser & Hodgkins, 2012). The indication that hyperactivity decreases in adulthood may be accounted for by the development of effective coping techniques, such as exercise and outdoor activities, through the lifespan. Thus, the symptoms of hyperactivity displayed in childhood may simply become more purposeful in adulthood as sufferers may engage in sporting activities or work that enables them to exhibit their excess energy in a more socially acceptable manner (Asherson, 2005; Brod et al., 2005; Toner, O'Donoghue & Houghton, 2006). As adults may display their hyperactivity in more socially appropriate ways, the descriptions of hyperactivity in DSM-IV are not always easy to apply to adults. In adults hyperactivity often manifests as an internal and perpetual feeling of restlessness and difficulty engaging in quiet or calm activities such as reading a book (Brod et al., 2012).

Effects of the continuation of the core symptoms of ADHD into adulthood are far reaching and have a severe impact on several, if not all aspects of the affected individuals' lives. It therefore becomes essential for ADHD to be properly diagnosed so that the affected individuals can manage the disorder. Individuals identified as having undiagnosed ADHD demonstrate higher rates of comorbid mental illness, lower socioeconomic status, lower quality of life as well as higher levels of functional impairment than non-ADHD controls (Biederman et al., 2006; Gjervan et al., 2012). In a study focusing on the functional and psychosocial impacts of ADHD on undiagnosed adults, Able, Johnston, Adler and Swindle (2007) found that 6.2% of their study sample who were previously undiagnosed screened positive for ADHD in adulthood. The undiagnosed sample displayed similar levels of functional and psychosocial

impairment as individuals diagnosed with ADHD. The study further mirrored results found in an earlier study by Biederman et al. (1993), which indicated that adults with ADHD had experienced significantly greater academic and educational difficulties than those without ADHD, including repeating grades, reading difficulties and placement in special classes. Furthermore, adults with ADHD were found to have a variety of difficulties related to psychosocial and occupational functioning. Adults with ADHD were shown to have increased occupational difficulties such as less professional employment, a higher number of job changes and a greater risk of being fired from their jobs (Able et al., 2007; Biederman et al., 1993). This study demonstrates the pervasive nature of ADHD as well as the significant burden it places on adults with the disorder (Able et al., 2007). These findings indicate that undiagnosed ADHD may have severe adverse effects on its sufferers, thus highlighting the need for greater awareness and ease in diagnosing the disorder in adulthood.

With regard to the exploration of the impact of the adverse effects of ADHD in adulthood, Murphy and Barkley (2007) conducted a study that focused on the occupational functioning of adults with ADHD. Adults with ADHD were assessed according to adaptive functioning and compared to a community control group as well as a clinical control group. Social and Occupational Assessment scales were completed to provide an indication of the participants' current level of functioning. To gain a clear understanding of occupational functioning, employers were requested to rate the participants. Results indicated that adults with ADHD were rated by their employers as less adequate in fulfilling work demands and less likely to complete tasks. This study provides evidence that adults with ADHD experience greater occupational impairment and more adverse outcomes related to their employment than adults without ADHD. It was concluded that ADHD was found to have a comparably significant impact on educational functioning and future occupational functioning (Murphy & Barkley, 2007)

The disadvantage that adults with ADHD faced within the work place has been linked directly to a lack of impulse control, deficits in attention and poor organisational skills. Murphy and Barkley (2007) found that a lack of impulse control led individuals to quit their job spontaneously, especially when they felt bored. Impulsivity is further evident in the level of impatience shown by adults with ADHD and may lead to inappropriate comments and interrupting others which in turn has a negative impact on social interaction (Brod et al., 2005). A lack of impulse control in adults with ADHD can cause conflict with superiors or colleagues and may have serious consequences such as abruptly quitting a job out of frustration, boredom or hostility in the workplace (Barkley & Murphy, 2010). Adults with ADHD who display symptoms of impulsivity engage in risky behaviour without consideration of the consequences; for example, impulsive behaviour while driving may lead to increased risks of car accidents (APA, 2000; Brod et al., 2005; Montano, 2004).

Additionally, it was found that a higher severity of ADHD symptoms predicted poorer occupational functioning (Murphy & Barkley, 2007). Further self-report studies indicate that adults with ADHD felt that their productivity at home and at work suffered due to their disorder, as they reported difficulties with *presenteeism*, (meaning they are physically present but not mentally present) as well as their quality and efficiency of task completion (Brod et al., 2005).

In large-scale study of 500 adults with ADHD, Biederman et al. (2006) evaluated the functional impairments experienced. Again, significant impairments within multiple domains were found and findings of the studies discussed previously regarding impairment and difficulties within occupational settings were corroborated. Adults with ADHD were found to earn significantly less than adults without ADHD. Additionally, the study found that participants were likely to experience problems within relationships and key aspects of life. Adults with ADHD reported that they were far less likely to feel that they fitted in with their

peers or that they were liked by other adults. Compared to 70% of controls, only 47% of participants felt that they had a good relationship with their parents. Adults with ADHD were found to have higher rates of divorce that non-ADHD controls and clinical observations indicated that the symptoms of ADHD, such as disorganisation, impacted negatively on family structures (Biederman et al., 1993; Weiss, Hechtman & Weiss, 1999). Forming and maintaining relationships over time appears to be significantly difficult for adults with ADHD (Brod et al., 2005). Findings showed that marital/relationship problems constituted a common complaint among adults with ADHD, which highlighted a need for accurate diagnosis and assessment of the disorder in order to address marital and family difficulties (Eakin et al., 2004). As a result of feelings of social isolation and a perception that they are incapable of maintaining healthy relationships, adults with ADHD tend to have significantly lower levels of self-acceptance and a more negative outlook on life as a consequence of experiencing years of impairments (Biederman et al., 2006)

In an attempt to establish which life impairments are predominantly affected by continued ADHD symptoms, Safren, Sprich, Cooper-Vince, Knouse and Lerner (2010) studied 105 adults experiencing persistent symptoms of ADHD despite pharmacological treatment. By corroborating Murphy and Barkley's (2007) findings that greater severity of ADHD symptoms predicted poorer occupational functioning; Safren et al. (2010) found occupational and interpersonal impairments to be the most trying areas of life impairments for adults with ADHD. The severity of the impairments was found to be distinctively related to severity of ADHD symptoms. Previous studies had shown that adults treated with medication show improvements but often still show persistent symptoms that remain despite treatment (Wilens, Biederman & Spencer, 1998; Wilens, Spencer & Biederman, 2002).

Aetiology of ADHD

When one considers the multitude of scientific studies which have been conducted regarding the aetiology of ADHD, ADHD is widely believed to be transmitted genetically (Sadock & Sadock, 2007). Some studies also do suggest that genetic and non-genetic factors combine to contribute to the development of ADHD (Faraone et al., 2005).

Several twin and adoption studies have confirmed the familiality of ADHD as the rates of ADHD among biological relatives are higher than those of adopted relatives (Faraone et al., 2005; Sprich et al., 2000). In a comparison of 20 monozygotic twin studies on the heritability of ADHD from around the world Faraone et al. (2005) found a mean heritability estimate of 76%, showing ADHD to be one of the most heritable psychiatric disorders. However, Faraone and Mick (2010) explain that "although twin studies demonstrate that ADHD is a highly heritable condition, molecular genetic studies suggest that the genetic architecture of ADHD is complex" (p. 11). A meta-analysis of literature on genome-wide scans conducted by Faraone and Mick (2010) indicated that studies showed divergent findings and as a result are inconclusive. However, candidate gene studies have provided researchers with hope for more conclusive findings. Candidate gene studies have provided evidence which implicates several genes in the aetiology of ADHD. These studies indicate that the genetic vulnerability to ADHD is influenced by many genes of small effect rather than one gene in particular (Faraone & Mick, 2010).

Additionally, a variety of neuroimaging studies have provided insight into the aetiology of ADHD. Children with ADHD display neuroanatomical differences from children without ADHD. In a study comparing the brain volumes and changes over time among 152 children with ADHD and 139 controls, Castellanos et al. (2002) compared 544 magnetic resonance images. Areas of the brain, including the basal ganglia, cerebellum and corpus callosum, in children with ADHD were shown to be substantially smaller or anatomically different from

children without ADHD (Castellanos et al., 2002; Valera et al., 2005). Although some structures of the brain may normalise over time, evidence suggests that other areas, specifically cerebellar regions, are similarly affected in adults and children (Castellanos et al., 2002). Some of the cognitive deficits experienced by adults with ADHD are linked to decreased cerebellar activation. Findings indicating decreased cerebellar activation implicate the cerebellum in some of the cognitive deficits experienced by adults with ADHD (Valera et al., 2005).

Environmental factors, particularly prenatal exposure to nicotine, alcohol, drugs, maternal stress during pregnancy and low birth weight, are also associated with ADHD (Banerjee, Middleton & Faraone, 2007). However, environmental factors should be viewed as potentially contributing to ADHD and not a causal factor as they have been shown to be mediated by genetic influences (Kooij et al., 2010). The gene–environment interaction refers to the interplay between genetic and environmental factors which can affect the expression of a given gene (Daley, Sonuga-Barke, Thompson & Chen, 2008). Daley et al. (2008) describe two types of gene-environment interplay which are relevant to ADHD; synergistic and antagonistic interplay. Synergistic interaction implies that the genetic effect of the disorder is increased by an exposure to risk factors. The development of ADHD may be influenced by primary risk factors such as the social environment. Stevens et al. (2008) provide evidence of the causal role that the environment plays in the development of ADHD by examining the effects of institutional deprivation. The study found inattention/overactivity (which shares many common features with ADHD) to be the domain of impairment in children who experienced early institutional deprivation. This study suggests that during critical periods of early development, persistent impairments may be caused through a fundamental neurobiological alteration (Stevens et al., 2008). Alternatively, antagonistic interaction denotes an interaction between genetic and environmental risk factors that lowers the probability of the disorder (Daley et al., 2008). The notion of antagonistic interaction is congruent with the

concept of resilience, whereby individuals who may have a genetic predisposition for risks avoid the potential negative outcomes associated with those risks. For example, the behaviours and emotional responses of parents have been found to impact the symptoms of ADHD directly (Daley et al., 2008). Although studies have shown that there is a correlation between psychosocial adversity and ADHD, it should be noted that such studies predict children's overall adaptive functioning and emotional health rather than ADHD. Psychosocial adversity or environmental interaction should be seen rather as a trigger of an underlying genetic predisposition for ADHD, rather than the cause thereof (Biederman, 2005; Biederman et al., 1995; Daley et al., 2008).

While current understanding of the aetiology of ADHD is dominated by biomedical explanations, it is important to consider that there is an alternate school of thought, which rejects the dominant neurological explanations of ADHD. Sociological discourse views ADHD as a social construct created by disorders within society which have constructed the perception of behavioural disorders in children (Visser & Jehan, 2009). As the construct of ADHD is currently positioned exclusively within the scientific discourse, the aetiology is viewed from a biomedical perspective, which results in a singular view on the interventions and treatments which are also bio-medically based (Graham, 2006; Visser & Jehan, 2009).

Though medically based studies may give the impression that the aetiology of ADHD has been biologically established, Rafalovich (2005) explains that the aetiology and treatment of the disorder remains controversial. The dominance of the biomedical explanations of ADHD is said to be due to the findings of a variety of brain imaging studies which have been conducted (Baumeister & Hawkings, 2001). However, the reliability of neuroimaging studies citing brain abnormalities as the aetiology of ADHD have been questioned. In a review of several neuroimaging studies, Baumeister and Hawkins (2001) found little consistency among the studies. For example, although many studies indicated that areas of the corpus callosum

had decreased in size in participants with ADHD, the studies were inconsistent with regard to which areas in particular were affected. It appeared that the literature indicated that it should be assumed that a lesion in any area of the corpus callosum is associated with ADHD. However, Baumeister and Hawkings (2001) argue that this hypothesis is implausible as "different regions of this structure connect with different cortical regions, which control different functions" (p. 8).

In addition to issues of reliability of neuroimaging studies, questions are raised as to how the results of such studies are interpreted. Whether or not the structural abnormalities in the brain are the cause of the disorder, or whether the abnormalities are caused by experiences related to having the disorder remains to be seen. The structural abnormalities seen in studies on ADHD are not isolated to the specific disorder and have also been found in studies on depression and schizophrenia (Krishnan & Doraiswamy, 1997). This may indicate that the abnormalities may be the result of stress experienced as a result of having a mental disorder, not ADHD in particular (Baumeister & Hawkins, 2001). Visser and Jehan (2009) assert that the biomedical paradigm has received such credibility due to a variety of factors. Firstly, by integrating subjective clinical knowledge with scientific studies, information which was largely subjective observation became an objective empirical disorder and *objectified truth.* Secondly, the biomedical paradigm was reinforced by the efficacy of methylphenidate in treating the symptoms of ADHD. Methylphenidate (discussed in the following section) regulates dopamine transmission in the brain, thereby reducing the symptoms of ADHD. However, those opposed to the biomedical model of ADHD feel methylphenidate is seen as effective as it removes unwanted behaviour as perceived by adults, not the symptoms of a disorder. The biomedical overemphasis of pharmacological treatments for ADHD may be the reason that other methods of treatments and interventions have been neglected in literature and in practice (Goldman, Genel, Bezman & Slanetz, 1998).

The view that ADHD may be a desired diagnosis for adults to root out unwanted behaviour and the subsequent media coverage in the popular press of medicated children, has led to the perception that ADHD is vastly over-diagnosed (Sciutto & Eisenberg, 2007). Much concern has been raised in the popular press regarding labelling children with ADHD in order to control unwanted behaviour displayed in the classroom setting and that medicating children is merely an easy way to appease parents and teachers. As a result, many have expressed concern about the evaluations performed by medical professionals prior to treating children for ADHD (Goldman et al., 1998). The perception that improper evaluations are conducted has further fuelled debates surrounding the overdiagnosis of ADHD. In order to assess evidence for the overdiagnosis of ADHD, Sciutto and Eisenberg (2007) evaluated the validity of the DSM-IV prevalence estimates of 3–7% for children with ADHD by reviewing 14 prevalence studies. It was hypothesised that if one could find that the DSM-IV prevalence estimates of 3–7% were too high, it would be rational to conclude that ADHD was over-diagnosed. In many of the studies reviewed, ADHD was found to be far more prevalent than suggested by the DSM-IV. However, in the studies reviewed, prevalence rates varied dramatically according to the methodology used within the studies, so much so that it was unclear whether the 3–7% were an overestimation or in fact an underestimation of the prevalence of ADHD. As a result it was concluded that there was not sufficient justification to conclude that ADHD is overdiagnosed, although it is misdiagnosed. This study is in line with earlier findings by Goldman et al. (1998) who found that while the number of children being treated for ADHD was increasing, the numbers were still in line with the lower estimates of the prevalence rates. They too found that ADHD is often misdiagnosed in children due to a failure to do a thorough evaluation or to failing to use DSM-IV diagnostic criteria. The misdiagnosis of ADHD may be falsely equated to overdiagnosis which may further increase perceptions that the disorder is overdiagnosed.

In the literature, neurological studies appear to be almost dogmatic and the literature discussed above attempts to challenge the dominant view and encourage readers to allow for the possibility of alternate explanations of ADHD. One such alternate explanation is the bio-psychosocial perspective. Tannock (1998) argues that the confusion surrounding the aetiology of ADHD is caused by seeking out a unitary cause within the biological fields which locate the disorder within the individual. From this perspective ADHD is viewed as arising from numerous factors which interact with one another. Proponents of the perspective argue that ADHD should be viewed holistically by incorporating a variety of perspectives on the aetiology and treatments of the disorder (Cooper, 1997). From the bio-psychosocial perspective, the aetiology of ADHD is constituted from a combination of theories within the biological, sociological and psychological frameworks, and thus treatment would be most effective if a multidisciplinary approach is adopted (Visser & Jehan, 2009).

Treatment and Management of ADHD

While psycho-education and psychotherapy are considered useful in assisting adults with ADHD to develop the necessary skills to cope with the challenges of daily life, confidence in brain imaging studies has led to medication being the most popular form of treatment for children and adults alike (Adler & Hong, 2002; Baumeister & Hawkins, 2001). In a review of advances in the pharmacological treatment of adults, Bitter, Angyalosi and Czobor (2012) note that recent studies indicate that pharmacological treatment of adult ADHD improves the symptoms of ADHD, assists in improving other areas of the patient's life such as functional impairments at home and in the workplace and assists in improving deficits in executive functions.

Pharmacological treatment for ADHD can be divided into stimulant and nonstimulant medications. Stimulant medications were the first medications to be approved for the treatment of adult ADHD (Bitter et al., 2012). These include methylphenidate and amphetamine of which

Ritalin and Concerta are most commonly prescribed (National Institute of Mental Health, 2008). Methylphenidates are dopamine agonist meaning they increase dopamine levels in the brain (Volkow et al., 2012); but exactly how the stimulant works has remained largely unknown until recently. Volkow et al. (2012) uncovered several new neurobiological findings with regard to ADHD and methylphenidate. Dopamine was found to increase in crucial brain regions linked to reward and motivation and this increase was shown to be associated with a specific improvement in symptoms of inattention as a result of the administration of methylphenidate. Furthermore, it was found that methylphenidate increased the levels of dopamine within the prefrontal and temporal cortices of the brain which were also associated with substantial decreases in levels of inattention.

Nonstimulant medication, namely atomoxetine (Strattera) constitutes a norepinephrine uptake inhibitor, but again, how it works exactly is not well understood at this point (Sadock & Sadock, 2007). These medications are useful for patients who are unable to tolerate stimulants. Atomoxetine appears to inhibit presynaptic norepinephrine while minimally affecting other noradrenergic receptors and neurotransmitter transporters (Michelson et al., 2001). In a large placebo-controlled trial, Michelson et al. (2003), show that atomoxetine produces far superior results in terms of the reduction of ADHD symptoms in adults, when compared to a placebo. Symptoms for both hyperactive/inattentive and impulsive subtypes responded well to atomoxetine.

Similarly, Mészáros et al. (2009) conducted a meta-analysis of all medications prescribed to adults with ADHD. Significant improvements were shown in the severity of the individuals' symptoms compared to those who received the placebo treatment. Overall, the meta-analysis indicated that all ADHD medications in adult participants showed statistically and clinically significant improvements in the symptoms of ADHD. Stimulant medication, particularly methylphenidate, was found to be very effective in treating adult ADHD. Though

the medication appears to be less effective in adults than in children, it nonetheless stands out as the best treatment option for adult ADHD and is the preferred and recommended treatment by GPs (Bolea et al., 2012; Mészáros et al., 2009; Ramsay, 2010; Salt et al., 2005).

Adults often refuse pharmacological treatment due to misinformation and the potential side effects. Side effects of stimulant medication include loss of appetite, insomnia, an increase in blood pressure, nervousness and irritability. However, the side effects are usually transient and subside over time (Weiss & Weiss, 2004). The prescription of stimulants is encouraged as they reduce the symptoms and behaviours associated with ADHD, resulting in an improvement of related problems such as low self-esteem, anger and mood swings (Kooij et al., 2010). Many adults with ADHD who use medication report positive outcomes and favour the use of medication (Brod et al., 2012).

Among the available non-pharmacological treatments Cognitive Behavioural Therapy (CBT) was found to be helpful when received alongside pharmacological treatment (Knutson & O'Malley, 2010; Ramsay, 2010). CBT aims at assisting the adult to implement effective coping strategies and to change thoughts and behaviours that develop over years of perceived failures in school and the workplace (Ramsay, 2010). The combined form of treatment shows increased self-esteem and self-efficacy, and a reduction in symptoms of anxiety and depression in adults with ADHD (Bramham et al., 2009).

GPs and ADHD

A few studies have explored the perceptions or attitudes of GPs toward ADHD and most available studies focus on ADHD in childhood. These studies will be discussed as the perceptions of GPs toward childhood ADHD may influence their perceptions of adult ADHD.

Salt et al. (2005) conducted a study in the United Kingdom to investigate GPs' understandings of ADHD as a disorder and their views on the management of the disorder. Their findings indicate that while GPs displayed variation in terms of their understanding of

the causes and symptoms of the disorder, they did show consensus in terms of how they felt about the management of the disorder. While these GPs comfortably prescribed repeat prescriptions of methylphenidate to treat the disorder, they felt they did not have the necessary knowledge to monitor the children while they were on the treatment and felt that it should be the responsibility of a specialist. While the GPs were willing to consider that various factors influenced the development of the disorder, including biological and social influences, they considered only pharmacological interventions viable in the treatment of ADHD (Salt et al., 2005). This may be an indication that there is a lack of availability of other treatments, or that pharmacological treatment is the primary guideline in the education and training of medical doctors. GPs within the study often commented on their lack of knowledge with regard to ADHD.

In a study focusing on Australian GPs, Shaw et al. (2003) found that GPs largely did not want to be responsible for the primary care of patients with ADHD and stated that they would rather refer the patient on to a specialist for the diagnosis and treatment of ADHD. The participating GPs felt that they did not have time or adequate training to deal with the disorder effectively. Hence, ADHD was seen as a variation of normal behaviour that the APA turned into a medical diagnosis; it appeared that GPs understood ADHD as a convenient label for naughty children. The perception that ADHD was a common social label substantially influenced the GPs' perceptions of the causes of ADHD. GPs in the study attributed ADHD to mainly external factors including social and familial factors such as poor parenting styles, a general lack of discipline in childhood and a breakdown of community support (Shaw et al., 2003). Many of the participants felt the disorder was over-diagnosed and misdiagnosed and that one consequence of the overdiagnosis of ADHD was an inappropriate use and overuse of medication for children who did not fit into society's perception of normal behaviour (Shaw et al., 2003).

Additionally, the GPs appeared concerned about the use of stimulant medication. This concern was represented by their references to popular media representations and lay knowledge regarding the uncontrolled use of prescription drugs. These views appear to be held despite contrary literature being available, including research published by the American Medical Association which concluded that there was little evidence of an over-prescription of methylphenidate by doctors (Goldman et al., 1998).

Also, the media plays a large role in fuelling the diverse social representations and perceptions of ADHD. Though the data on the validity of ADHD is more compelling than for many other mental disorders and the disorder is described as one of the best-researched within the medical field, controversy and doubt still surround the diagnosis (Goldman et al., 1998). To explore how various print media representations of ADHD influenced perceptions among individuals with ADHD symptoms, Schmitz, Filippone and Edelman (2003) conducted a content analysis of popular magazines and journal articles relating to ADHD over a 10-year period (1988 to 1997). By the mid-1990s the understanding of the causes of ADHD had progressed from the unknown to genetic and neurobiological explanations. Despite more accurate reporting in terms of causation, discourse surrounding pharmacological treatment for ADHD remained negative, calling the medication a "quick fix". Conrad and Potter (2000) attempted to uncover the medicalisation of ADHD with a focus on the diagnosis of adults in the 1990s. They explained that the idea of ADHD in adulthood did not reach the popular media until the 1990s and that the idea that adults could have ADHD was spread with the assistance of a variety of media. These forms of media included a several books, popular magazine articles and a variety of television news reports aimed at the lay public which described the biological nature of the disorder and the relief many adults felt when they were diagnosed (Conrad & Potter, 2000). It appeared that the general consensus being conveyed to the public was that adult ADHD was indeed a legitimate disorder and that for many adults the diagnosis

of ADHD may answer many questions regarding their disorganisation, feelings of failure and perceived incompetence. Conrad and Potter (2000) explain that in stark contrast to children, self-referrals among adults are the norm. Patients frequently go to their physician specifically seeking a diagnosis of ADHD, after they have encountered a description of ADHD in the popular media and identify with the description. Additionally, parents commonly self-diagnose when they take their child to the doctor and remark that they experienced challenges when they were children; thus the diagnosis of their child often assists adults in forming an understanding that they too have ADHD. In this regard Conrad and Potter (2000) confirm that comments on internet sites constitute an indication that adults often self-diagnose after reading an article or a book.

Despite scientific evidence attesting the authenticity of the diagnosis of ADHD, there are still critics and sceptics who doubt the validity of the disorder. During the 1990s, a number of books that were critical of the disorder were released, referring to ADHD as an "epidemic" and voicing outrage at children being medicated with Ritalin (Conrad & Potter, 2000). Subsequent to 1994, public media became more critical about the disorder in adulthood and voiced criticism over the subjective nature of the diagnosis of the disorder (Conrad & Potter, 2000). One of the academic sources that fuelled this doubt was a study by Hill and Schoener (1996), in which non-linear regression analysis was applied to previous longitudinal studies that showed the decline in ADHD corresponding to chronological age. An estimated prevalence rate of 0.8% at age 20 and 0.05% at age 40 was attained. This showed in essence that the rate of ADHD in a given age group decreased by 50% every five years. This study did not consider individuals who only partially conformed to diagnostic criteria later in life. These children who previously had ADHD still continued to suffer from symptoms later in life although they did not meet the full DSM diagnostic criteria (Faraone, Biederman & Mick, 2006). The study

provided an exceedingly optimistic outlook of the prognosis of ADHD by overlooking the severity of the symptoms the individuals with ADHD continued to display.

Due to the lack of clear diagnostic criteria for adult ADHD and the lack of a definitive test for ADHD, the decision of how to diagnose adult ADHD ultimately lies in the hands of practitioners and its diagnosis depends on the criteria they choose to apply (Conrad & Potter, 2000). The persistence of ADHD into adulthood depends on how stringently the practitioners adhere to the DSM diagnostic criteria (Faraone et al., 2003). If practitioners only diagnose adults with ADHD on condition that they meet the full criteria according to the DSM-IV, the prevalence rate is found to be low – less than 15% (Faraone et al., 2006). However, if the practitioners diagnose patients according to the DSM-IV criteria for ADHD partial remission, prevalence rates are much higher (40–60%) (Faraone et al., 2006).

Faraone et al. (2006) further conclude that by the age of 25, only 15% of patients retain the full diagnosis of ADHD, while an additional 50% meet the diagnostic criteria for ADHD in partial remission. This indicates that approximately two-thirds of people diagnosed with ADHD as children continue to be significantly impaired by symptoms of ADHD (Faraone et al., 2006; Kooij et al., 2010). The strict adherence to the DSM-IV criteria may account for the discrepancy between the diagnostic rates of ADHD and the estimated prevalence rates. However, in a European consensus statement, Kooij et al. (2010) describe another possible reason for under-diagnosis of adult ADHD: many medical professionals are still uninformed and therefore unaware that ADHD persists into adulthood, and, as a result, these professionals fail to recognise the clinical presentation of the disorder. According to Adler et al. (2009), GPs report that ADHD is far easier to diagnose in children than in adulthood, with up to 65% preferring to refer potential cases to a specialist for diagnosis. However, if a specialised screening tool was available, the majority of GPs felt that they would feel more comfortable with the diagnosis and treatment of the disorder.

Louw et al. (2009) explain that adult patients often feel that they have a well-established relationship with their GPs and have confidence and trust in them as they have generally been seeing them for years. Their study aimed at gaining a better understanding of the role of South African GPs in diagnosing ADHD in adults and children. In the study they attempted to establish how familiar GPs were with childhood and adult ADHD and what their attitudes were toward the disorder. The results indicated that while GPs felt they had adequate knowledge of ADHD in childhood, they felt they knew significantly less about adult ADHD. Only 1% of 229 GPs who participated in the study felt that they had adequate training with regard to adult ADHD. In fact, it was felt that they know substantially more about depression and generalised anxiety disorders as their training equips them better to deal with these disorders. While the study yields valuable results in terms of the limited training and knowledge GPs have with regard to adult ADHD, the information it provides on the attitudes of GPs toward ADHD is limited to whether or not they *enjoy* treating patients with ADHD or not (Louw et al., 2009).

The limited training medical doctors receive with regard to ADHD is not restricted to South African universities. GPs worldwide have indicated that their training with regard to ADHD is inadequate (Ghanizadeh & Zarei, 2010; Lian et al., 2003). A lack of training and experience with adult ADHD can have far-reaching effects for the patient as GPs are uncertain and hesitant when diagnosing and treating the disorder (Salt et al., 2005; Weiss & Weiss, 2004). If GPs are not adequately equipped to diagnose ADHD they may fail to recognise the symptoms of the disorder, or misdiagnose the disorder which may result in many adults with ADHD being untreated or treated for the incorrect disorder (Able et al., 2007; Montano, 2004).

Changes to the Diagnostic Criteria of ADHD in the DSM-5

The recent release of the DSM-5 in 2013 has seen some relatively significant changes made to diagnostic category of ADHD. Notably, the definition of the disorder has been updated within the DSM-5 to reflect the experience of adults affected by the disorder. The APA has

acknowledged that previous editions of the publications failed to provide adequate guidelines for clinicians for the diagnosis of the disorder in adulthood (APA, 2013b).

The subtypes of inattention and hyperactivity/impulsivity remain and the criteria were not changed from the DSM-IV, but significant changes were made in terms of making the symptoms more applicable to adult patients by including examples which are more appropriate. Significantly, while children still need to display six or more symptoms within one or both subtypes of the disorder in order to meet the criteria for ADHD, the number of symptoms that individuals over 17 need to present has been reduced to five. The extensive critique in the literature has been taken into account and perhaps the most significant change within the DSM-5 is that symptoms are required to be present before 12 years of age, rather than the seemingly arbitrary age of 7 (APA, 2013a, 2013b).

The acknowledgement by the APA that ADHD does not fade at a specific age and that a significant number of patients diagnosed with ADHD in childhood continue to experience symptoms of the disorder in adulthood may prove to assist many adults in the future because clinicians may feel more comfortable with the guidelines for diagnosis (APA, 2013a, 2013b). However, as the release of the publication is so recent, follow-up studies will need to be concluded in the future to establish if there is any change in rates of diagnosis of ADHD in adulthood and if it assists clinicians to feel more comfortable and confident in diagnosing and treating the disorder in adulthood. The release of the DSM-5 will also affect the training of general practitioners as training institutions will utilise the new publication. Future studies will need to be conducted to establish whether this may make a difference to GPs in terms of diagnosing the disorder in adulthood.

Chapter 3: Research Methods

Research Design

The study was explorative in nature and aimed to investigate the attitudes of GPs toward adult ADHD. A qualitative approach was therefore adopted and the study followed an interpretive paradigm. A qualitative research design was selected as it enabled the researcher to share in the understandings and perceptions of participants and to understand how meaning was given to the subject of ADHD (Berg, 2001). An interpretive design was used as it aims to describe, explain and gain an understanding of the lived experience of people, particularly from the participants' point of view (Charmaz, 1995; Green & Thorogood, 2009). The research intended to discover how participants construct their experiences through their actions, feelings and beliefs. By allowing the participants to convey their lived experiences, the interpretive framework enabled the researcher to capture the thoughts, feelings and opinions of the participants (Charmaz, 1995).

Within the interpretive design, language becomes the data as participants portray their representations and interpretations of the subject matter (Green & Thorogood, 2009). Davis, (2008) explains that by its nature the basic interpretive approach relies on constant flexibility and reflexivity throughout the research process. Throughout the research process themes and patterns were constantly discovered and rediscovered and finalised during the process of analysis.

Participants

Participants selected for this study were from the population of GPs within the private sector. Participants were required to be registered with the Health Professions Council of South Africa (HPCSA). Additionally, participation criteria prescribed that the participants must have obtained their tertiary education and training as a general practitioner in South Africa. This

exclusion criterion was necessary given that the research aimed to explore the training received with regard to adult ADHD within the South African context. Furthermore, participants were required to have been in practice as a GP for a minimum of three years in order to increase the likelihood that the participant would have had experience with adult ADHD.

The study sample consisted of eight participants of whom five were male and three were female. All participants were currently in private practice within Gauteng Province, South Africa. Five South African universities were represented in the sample. Purposive sampling was the adopted sampling technique for the study. Specifically, the sampling entailed a combination of convenience and snowball sampling. Convenience sampling entailed selecting participants on their availability and their willingness to take part in the study (Gravetter & Forzano, 2009). Snowball sampling entailed participants who were involved in the study referring potential participants to the researcher (Saumure & Given, 2008). GPs from within an accessible community as listed on the Medpages™ database were identified and contacted telephonically; thereafter snowball sampling was used as participants recommended potential participants.

Procedure

A proposal to conduct the research was submitted for ethical clearance in April 2013. Upon approval, GPs within an accessible geographical area were identified via the Medpages™ website and contacted telephonically to request their participation in the study. GPs who were willing to participate in the interview were provided with a participant information sheet via email or personal delivery (Appendix B). The information sheet carefully explained the focus and the aims of the research, as well as the procedures and ethical rights of the participants. Interviews were then scheduled with each participant and were held at their respective practices at a time convenient to them. Prior to the start of the interview participants were encouraged to ask any questions they might have about the research or raise any concerns they might have.

Thereafter, participants were asked to sign informed consent for participation as well as a form confirming consent to the audio recording of the interview (Appendices C and D). Then the interview commenced and lasted approximately 40 minutes.

Research Instrument

Data was collected through the use of individual semi-structured interviews consisting of open-ended questions guided by an interview schedule. An interview schedule was compiled by the researcher on the basis of information gathered from the literature review and designed around the research questions (Appendix E). A semi-structured interview assisted the researcher in exploring the interviewees' views on the diagnosis, treatment, perceptions of adult ADHD and training received on adult ADHD, while still allowing the interviewees' responses to unfold as they viewed it and framed it (Marshall & Rossman, 2011; Willig, 2008). As Banister, Burman, Parker, Taylor and Tindall (1994) explain, semi-structured interviews by their nature should not be treated in a rigid manner; one should be flexible and respond to issues raised by the interviewee. Though the interview schedule provides comfort for the interviewer it may be intimidating to the interviewee if it is adhered to too rigidly. Thus, the researcher was equipped with an interview schedule containing particular questions and probes which were relatively open ended as it was hoped that the interview would unfold organically and allow various avenues of questions to be explored in order to enrich the data. Upon the completion of the interviews, the recordings were transcribed verbatim to form the raw data for analysis.

Data Analysis

Braun and Clarke's (2006), thematic content analysis method was used to analyse the transcribed interviews. Thematic content analysis is a way of "organising interview material in relation to specific research questions" (Banister et al., 1994, p.57). Thematic content

analysis was chosen as the method of choice for analysis because it allowed the researcher to report the experiences, meanings and reality of the participants which corresponds well with the interpretive research design which the current research adopted (Braun & Clarke, 2006).

Thematic content analysis was also adopted as it is a form of analysis that offers qualitative researchers a theoretically flexible and accessible method of analysing data (Braun & Clarke, 2006). Thematic content analysis is not bound to a particular theoretical framework and as a result it can be used alongside a variety of theoretical frameworks. The flexibility that thematic content analysis provides researchers allows for the potential to provide a rich and detailed account of the data. This method of analysis allowed the researcher to identify patterns and themes which reflected the perceptions of GPs in a rich and detailed manner.

Following the steps adapted from Braun and Clarke (2006), the interviews were accurately and thoroughly transcribed into a written form and read and reread several times in order for the researcher to begin the process of familiarising herself with the data. All interviews were transcribed verbatim to allow the researcher to more accurately identify themes and to allow for the use of direct quotations while writing up the results. Once the researcher had familiarised herself with the data and noted initial areas that piqued an interest she proceeded to generate initial codes from the data. These codes served to identify features of the data which appeared interesting to the researcher. Some initial categories which were extracted from the data include *development of coping mechanisms, occupational performance, consequences of ADHD.* Once all the data had been initially coded the researcher was able to begin searching for themes. This was done by collating the data and various codes into a variety of potential themes. During this phase various codes were combined and incorporated to form various overarching themes, which were illustrated through the use of a thematic map (Braun & Clarke, 2006). For example, the initial categories discussed above were incorporated into the final theme *ADHD is a lifespan disorder* as they indicated the GPs' acceptance of the

validity of the disorder. Thereafter, the themes were thoroughly reviewed in order to establish the validity and relevance of the initial themes. Finally, the themes were clearly defined, named and the most salient and the most pertinent themes were selected for incorporation into the study and detailed analysis was written on each of them.

Ethical Considerations

Ethical clearance was obtained from the Human Research Ethics Committee of the University of the Witwatersrand. The participants were provided with an information sheet which clearly informed them of the purpose and the intentions of the research (Appendix B). Written consent was obtained from participants confirming their willingness to participate in the study by participating in an individual interview. Each participant was informed that participation in the study was completely voluntary and that they were free to withdraw at any time (Appendix C). Participants were requested to sign one additional consent form allowing for the audio recording of the interviews (Appendix D). As the nature of the interviews were face-to-face complete anonymity could not be guaranteed as the personal details of the participants were necessary for practical reasons. However, confidentiality was guaranteed as the information obtained from the participant was only available to the researcher and supervisor. In order to ensure anonymity within the research report, any identifying information was removed from the transcripts. Additionally, the identities of participants were protected through the use of alpha codes as a substitute for names within the report in order to ensure participants' confidentiality and anonymity within the research report.

Transcripts and audio files were safely stored on a password-protected computer. Furthermore, the files containing transcripts, information and audio recordings were additionally individually password protected and encrypted. The transcriptions and audio recordings will be kept for a period of three years, after the submission of the research report,

to allow for any possible publications or conference presentations. Thereafter they will be destroyed.

Chapter 4: Results

Across the eight interviews several common ideas emerged which could be grouped into themes through the use of thematic content analysis. The research questions were used in order to cluster and discuss each theme. The first research question related to the attitudes of GPs toward adult ADHD. One theme was extracted with regard to this question, namely *ADHD is a lifespan disorder*. The second research question aimed to explore how GPs go about diagnosing adult ADHD. Three themes were extracted with regard to this question, namely the *self-diagnosis of adults with ADHD,* the *perception of time constraints affecting the diagnosis of adult ADHD* and *resistance toward the use of the DSM*. Various sub-themes relating to the main themes outlined were extracted during the analysis and these will be discussed under the relevant themes to follow.

ADHD is a Lifespan Disorder

One aim of the study was to establish the attitudes and perceptions that GPs held toward ADHD as a disorder among adults. Participants all expressed an awareness of adult ADHD and recognised the disorder. It was evident that participants viewed ADHD as a disorder that first occurs in childhood. However, it was seen to endure into adulthood for many patients and to affect their functioning in numerous ways. Participants voiced a willingness to assist patients with ADHD through various means which will be discussed within the second theme.

ADHD was considered a highly heritable disorder which was always an extension of childhood ADHD. Many patients seen by the participants were described as coming from generations where ADHD was not frequently diagnosed or treated in childhood. Generally it seemed that the current patients in their late 30s onward were deemed to be from generations where there would not have been an awareness or diagnosis of ADHD in children. As a result it seemed a large majority of the patients seen had never been diagnosed and treated for ADHD. Thus, the participants' insights largely reflected their views on untreated adults unless

otherwise stated. Young adults were thought to have a greater awareness of the disorder as they might have been treated as children or might have had friends who were diagnosed with ADHD. University students were specifically considered as likely to visit their GP for treatment of ADHD as they found it difficult to maintain concentration during times of intense academic pressure.

> *I try to spend some time with them [patients], to explain to them and I say, because this is a lifestyle thing. It is not going to go away, it is going to be with you for the rest of your life ... I mention it to all of them that it is hereditary and you never outgrow it. You learn coping skills but you never outgrow it.*
>
> *– Participant A*

ADHD was seen to affect patients to varying degrees depending on the severity of their symptoms. Those that were able to cope relatively well through their schooling were perceived to have adjusted better to their disorder. These adults had generally developed a variety of coping mechanisms which allowed them to function effectively in adulthood. Many of these adults were completely unaware that they had the disorder as they were never diagnosed as children and had no choice but to adapt to their shortcomings and develop ways to manage them. It was perceived that these adults function effectively without treatment and that it would not be beneficial to the patient to point out that they may have ADHD. Patients believed their symptoms to be completely normal as they had always formed part of their daily living and they had learnt to live with them. However, some patients experienced the disorder very differently and for them the symptoms created a level of dysfunction which impacted their lives severely.

Several symptoms were identified as indicators of ADHD in adulthood. An inability to maintain concentration was seen by all participants as fundamental to the disorder. Participants felt that a difficulty in maintaining concentration was specifically evident in patients' inability

to maintain focus long enough to read a book or article. The inability to complete a book or article appeared to be a key indicator of the disorder for many of the participants. Adults with ADHD were considered unable to maintain focus on a task for long enough to complete the task uninterrupted. They were perceived as unlikely to see a task through to completion and to become bored easily. This perception resulted in participants viewing adults with ADHD as chronic multi-taskers who were constantly on the go and often overcommitted to a variety of projects that they were unable to manage effectively.

Additionally, forgetfulness was seen as an indication of ADHD. Patients were described as often forgetting things that those without ADHD would generally not. Patients with ADHD were seen as frequently forgetting what it was they wanted to do, forgetting what they intended to purchase when shopping and forgetting where they parked their car or where they left their keys.

Impulsivity was accounted for by patients frequently needing stimulation and excitement. Adults with ADHD were seen to seek out jobs or activities which provided them with an adrenaline rush. Two examples included working within the emergency unit of a hospital which required constant energy and constantly challenged the individual. Additionally, constantly feeling an urge to impulsively do something exciting such as skydiving or bungee jumping was considered common in adults with ADHD. Two of the participants explained this as a need to increase dopamine levels which were thought to be low in patients with ADHD.

To compensate for many of the difficulties associated with ADHD, it was understood that patients had developed many coping mechanisms that assisted them in their daily functioning. Coping mechanisms were understood to naturally develop over the patients' lifespan, particularly through their time at school. Within the social setting, adults with ADHD developed communication skills which enabled them to refrain from interrupting others and to

wait their turn to speak. Adults were thought to utilise a variety of methods to compensate for forgetfulness and inattention which included constantly making lists and writing down important instructions or tasks. Additional constructive coping mechanisms included expending excess energy on exercise and adopting hobbies that they are able to maintain focus on in order to feel a sense of mastery. Hobbies were thought to enable patients to stop their mind racing as they are completely absorbed in a task that they enjoy. Though coping mechanisms were thought to assist patients with ADHD in their personal lives, with routine tasks, they were considered inadequate within the work environment, where the demands were greater. Adults were perceived to be affected by the disorder to different extents as they adopted adaptive coping mechanisms throughout their lifespan. Coping mechanisms were seen as fundamental in mediating the extent to which adults were affected by ADHD and were thought to allow adults to function at a level that was perceived as acceptable by the participants. Adults were expected to develop effective coping mechanisms as they matured through childhood regardless of whether they were diagnosed with ADHD in childhood or not. Results indicated that coping mechanisms were believed to allow patients to compensate for many of the difficulties and symptoms experienced as a result of ADHD.

> *[T]here's so much technology that assists you that if you just stick to it you will know where you have to be next and your appointment … it's much easier nowadays you're not dependent on your memory. And so I don't think it's a serious problem for people to function … but when they have to perform in a work environment. When they have to take on tasks, projects, modules, train themselves in for the new software that they have to learn that's when the problem comes through.*
>
> *– Participant E*

Participant responses reflected a perception that ADHD most severely affected individuals in terms of their occupational functioning. A majority of participants indicated that

adults with ADHD frequently lose their jobs. Participants were under the impression that it was unlikely that adults with ADHD would stay in one job for an extended length of time. Their inability to sustain attention as a result of feelings of boredom meant that they were not as productive as they should be and were they were often dismissed as a result. Additionally, poor time management and a lack of self-discipline were seen to contribute to the individuals' failure to meet their deadlines or targets at work. Individuals who were not dismissed were considered to impulsively quit their jobs because it did not fulfil a need for stimulation that adults with ADHD require. Adults who maintained stable careers were seen as exceptions to the rule. Careers that fulfilled their need for excitement or jobs within a field of extreme interest to them allowed them to manage their inattention or lack of concentration and remain interested in the job. Even when adults with ADHD were successful in their careers, one participant was of the opinion that if their ADHD was treated correctly they could be have been *more* successful in their careers and could potentially have achieved more.

Overall the perception of untreated adults within the workplace appeared to be largely negative. When participants described how they would identify adults with ADHD many negative attitudes came to light with regard to their occupational functioning. Those affected were frequently identified by their general underperformance in a sense that the individual clearly had the potential to achieve but did not. Many adults with ADHD were deemed to have many failed careers and likely to be unsuccessful as a result. The difficulties experienced in the workplace were seen to be compounded by an extremely challenging school career. Patients were deemed to have had academic difficulties throughout their schooling and were thought to be perceived by teachers as unable to achieve. Additionally, they were described as constantly being in trouble with authority figures. Participants felt that adults often perceived themselves as incapable of success or that failure was inevitable. Thus, it was believed that

these negative self-perceptions and possible low self-esteem as a result endured into adulthood and possibly affected their workplace performance.

> *I am looking at a lot of people who don't perform or don't achieve what they need to achieve in their life.*
>
> *– Participant B*

The difficulties that adults with ADHD experience at work were thought to be amplified when they were expected to take on new responsibilities at work or when they began a new job. This may be associated with a difficulty in sustaining attention which was thought to make it more challenging for these individuals to learn the new duties or skills required. Furthermore, it was thought that adults with ADHD felt an increased amount of pressure to perform and prove their value at work, which led to increased stress levels and difficulties coping. The perceived pressure to perform may stem from a belief that adults with ADHD may feel a need disprove perceptions that they are failures.

> *[T]hey can't keep their jobs for long enough because they get bored. They can't keep their long-term attention in a job situation, they just get bored. And then that causes secondary problems which normally leads to extramarital affairs or depression or abuse, drug abuse or alcohol abuse issues.*
>
> *– Participant C*

The dysfunction within the occupational environment was seen to bring about several difficulties in the individuals' personal lives. When one member of the family had untreated ADHD it was seen as a disorder that can affect the functioning of the entire family. Particularly when the main breadwinner had ADHD, the effect was perceived to be more severe as the family was deemed to suffer financially. Three participants explicitly linked drug use/abuse to ADHD. Yet the link between ADHD and addiction appeared complex as two different views emerged with regard to the reasons for substance use/abuse. Firstly, substance use/abuse was

seen to emerge as a form of self-medication or a coping mechanism when adults experienced occupational difficulties associated with maintaining attention. One participant's view was that cocaine is used as a means to stay focused at work and that without the drug in their system they experience difficulties in listening and concentrating. Secondly, drug use/abuse was associated with a form of rebellion and recreational drug use that adults with ADHD were perceived to engage in. It appeared that drug use/abuse could be linked with feelings of boredom and a need for stimulation that individuals with ADHD were seen to experience. Recreational drug use may be seen as a means to fulfil the persistent need for excitement that participants perceived adults with ADHD to have.

Two of the participants thought that the difficulties associated with ADHD significantly contributed to an inevitable depression as a result of patients experiencing recurrent failures through life and beliefs that they are not able to reach their potential and function or cope as well as their peers or co-workers. These participants saw depression as a consequence of the symptoms and impact of ADHD rather than being onset prior to or in conjunction with ADHD.

Most of them end up on an antidepressant of some sort … they all get depression. All ADHD adults get depression if it's left uncontrolled

– Participant C

Finally, participants said that they regularly had to dispel misconceptions about ADHD that patients hold. Most frequently patients believed that individuals with ADHD had a lower IQ than others. Patients frequently referred to themselves or others with ADHD as stupid or dumb. Participants fundamentally disagreed with this myth and held their own perceptions of where the myth may have originated from. Many felt that it was a result of the difficulties that patients may have experienced as children in the education system they were exposed to. It was felt that as a result of the child being constantly naughty and in trouble at school they were ignored by teachers. This was seen to result in the child falling behind in their academic work

and ultimately led to their failure to achieve. Participants believed that teachers viewed the child as less intelligent than others in the class or as having a learning disability. As a result, it was thought that children internalise these views and carry them through to adulthood. Throughout adulthood this perception was reinforced as they found it difficult to adapt to the work environment.

The Self-diagnosis of Adults with ADHD

The second research question aimed to investigate GPs' views surrounding the diagnosis and treatment of adults with ADHD. An important aim of the research relating to this research question was to explore how GPs go about diagnosing ADHD in adults. Analysis of the data overwhelmingly indicated that the initial diagnosis of ADHD is generally made by the patients themselves before they seek out confirmation from their GP. Patients were described as being relatively certain that they had ADHD when they arrived for their consultation. A minority of the patients had been treated for ADHD as children but discontinued their medication after leaving school. These patients visited their GPs to resume pharmacological treatment as they typically experienced challenges once again at university. However, a majority of patients described by participants were undiagnosed and had recently begun to suspect that they may have ADHD.

Patients who had been experiencing significant challenges throughout their lives or who had recently experienced a significant life change appeared to seek out an explanation for their behaviour and difficulties. Participants reported that patients would undertake internet research to seek answers for difficulties they were experiencing and would typically find evidence to suggest that they had ADHD. Alternatively, patients may have come across an article or pharmaceutical pamphlet describing adult ADHD and identified with the symptoms. Both of these categories of patients would then approach the participants with the suspicion that they had ADHD and enquire about treatment. It is important to note that participants explicitly

communicated that they did not generally diagnose ADHD unless the patient specifically inquired about it. This aspect of the diagnosis was deemed to more accurately relate to the following theme highlighting time constraints and is therefore further discussed in the section that follows.

You see, I am not looking for it. I just discuss it with them because they have brought it up … I have them coming in to me to say listen I think I've got ADHD

– Participant B

The adults usually come and ask me for it.

– Participant A

The reason that GPs explain they are not *'looking for ADHD'* related to the nature of GP practice. The nature and role of the profession was not to screen for potential mental health problems. Unless the patient mentioned a suspicion of a particular psychological disorder or described symptoms that clearly indicated a specific diagnosis the participant was not likely to suggest such a diagnosis. Thus, patients were much more likely to be diagnosed and treated for ADHD if they were aware of the disorder and its symptoms and could ask their GPs about it. In this sense it was felt that the media could play a vital role in creating awareness of ADHD as a disorder of adulthood. A public awareness of the disorder and the fact that there are highly effective treatments available may encourage more adults to seek assistance if they suspect they have the disorder.

I think that the best way for an adult to know he's ADHD is if he reads about it somewhere. You know, through exposure through advertisements and probably from pharmaceutical companies. You know we get a lot of patients through that route … patients or people who read about themselves in the media. They come to us and say, listen I think I have this and this and I say why? And they say you know I've read about

it. So otherwise, they you know, if you don't know the diagnosis, you don't come and complain about it.

– Participant D

The media was further credited for assisting to reduce the stigma of ADHD as a disorder. As accurate information was distributed through popular media, adults were able to identify with certain aspects of the disorder. Furthermore, awareness was created that the disorder was common in others. Thus, participants appeared to perceive patients as more willing to approach them with the suspicion of having ADHD now than in the past. This appeared true, particularly for patients from generations where ADHD was not being treated in children. Participants relate that these patients went through life believing they were just *naughty children* who were less intelligent than their peers. However, as awareness of the disorder increased they experienced significant relief as they came to the realisation that there was an explanation for the challenges they were experiencing as well as the potential for effective treatment.

And again people normally just need to know where they are … It makes them accept themselves, it makes them understand themselves to a point where they know when they feel a certain way they just need to calm down and say look I've got this [ADHD] … they just need to realise their symptoms and get an escape for it, otherwise they know they are going to spin out completely.

– Participant C

There appeared to be only one exception to the notion that adults with ADHD approached participants with the belief that they had ADHD. Two of the participants who appeared to treat and manage ADHD in adults frequently noted an additional way that adult ADHD is diagnosed. It may be important to consider that, of the eight participants, four had attended additional training on ADHD, including the aforementioned participants. The additional training may have influenced their opinions on the diagnosis of ADHD and is further

discussed in the theme which follows. In addition to the patients self-diagnosing ADHD, these participants expressed that they also frequently treated adults with ADHD after diagnosing their children with ADHD. This appeared to be a result of the participants' cognisance of the high rates of hereditability of the disorder. This awareness led the participants to question which of the two parents may have the disorder.

> *What happens is the kids are all tested at the schools by their occupational therapists, teachers, psychologists, and then they send them to us via the school for the kids that have ADHD or ADD and you know, as always, we need to speak to the parents ... I say "well you know one of you has this problem, it's a genetic issue and the problem with adult ADHD is it's a lot more dysfunctional".*
>
> *– Participant C*

It seemed the parent identified as having ADHD were encouraged by these participants to take the medication that was being considered to treat the ADHD for their child. This course of action appeared to be followed for two reasons. Firstly, it was hoped that taking the medication would reduce the parent's anxiety levels around medicating their child. Parents were often hesitant to medicate their children as they were concerned about the side effects of the medication. Secondly, parents were encouraged to take the medication first as a way of introducing them to the benefits of the medication so that they would consider the treatment for themselves. The parent who took the medication would experience a reduction of their symptoms and increased concentration and would thus be convinced that they had the disorder if they were sceptical.

And I said, "you know what you can do before you even give it to your child, take one, take one tablet. It works within 15 minutes and it works for 4 hours and feel what it does for you. Feel if you can feel a difference in your concentration", or something like that.

– Participant A

Time Constraints Affecting the Diagnosis of ADHD

The diagnosis of ADHD appeared to be greatly influenced by a lack of time during the sessions. There was an overwhelming consensus that the average GP consultation did not allow time to fully explore the symptoms and do a thorough diagnosis in terms of going through the DSM criteria.

[B]ut you must realise something as family practitioners, we are confined by a certain amount of time. We are not like psychiatrists who can devote an hour or psychologist who can devote an hour … We just don't have the time, that's your field of interest, that's what you need to do. So it's a time issue, a lot of these psychiatric conditions require a lot of time which the GP out there does not have, that luxury of time, to actually spend an hour with the patient, trying to unpack every single issue in their lives.

– Participant H

Findings indicated that adults with ADHD will not be diagnosed as such by GPs unless the patient explicitly states a suspicion of ADHD within the consultation. GP consultations were highly constrained by time as they averaged a maximum of 12 to 15 minutes. As a result of the limited time available for the consultations, participants emphasised their focus on the presenting concern. The nature of GP practice was to provide the most accurate answers and treatment plan possible in order to solve the patient's presenting concern. Thus, participants described a pressurised environment where they were required to solve at times highly complex

problems within 12 to 15 minutes. The focus required on the presenting concern rarely left the participants with time to explore additional concerns or to find out details of the patients' lives. As a diagnosis of ADHD would require an in-depth discussion of the patient's history, particularly their educational functioning, and questioning with regard to whether they experience a variety of symptoms of ADHD, it was deemed difficult to spend time on discussions such as these if they did not relate specifically to the presenting concern. There were occasional exceptions, for example, when patients came in complaining of a lack of concentration, forgetfulness or memory loss. These symptoms could prompt the GP to consider ADHD as a diagnosis and thus explore it further with the client. However, this appeared to happen infrequently.

> *And ultimately, it doesn't, it might not sound right but GPs want to make money, you know. So they don't want to go into something that will cost them a lot of time. You are sitting with a patient who hasn't come to complain about something and then just out of interest start questioning him and half an hour later you have made a diagnosis and what then you know? You have lost a lot of money and he [the patient] might be happy about it, but you don't have time for it. So GPs really don't go into it. Except if people come and complain.*
>
> *– Participant D*

Participants were of the opinion that the diagnosis of adult ADHD required an inquiry into a patient's childhood and history which was deemed to take an excessive length of time. Psychologists and psychiatrists were deemed not only more likely to have time within the session to discuss matters of childhood but it was also deemed part of their scope of practice by the participants. As a result, many of the participants expressed that they were likely to refer to a psychologist or psychiatrist for further assessment if they suspected ADHD. This appeared true to a greater extent for participants who did not feel confident diagnosing or

treating the disorder. Those who felt a lack of confidence with regard to the disorder explained that they would refer a patient to a psychologist or psychiatrist for further diagnosis and treatment even if they and the patient were relatively sure that ADHD was the correct diagnosis. These participants further explained that they would not treat ADHD at all and would expect the psychologist or psychiatrist to treat the disorder as it was their area of expertise. Only one participant deemed it unnecessary to refer a patient to a psychologist or psychiatrist for ADHD because he considered pharmacological treatment sufficiently effective. All other participants deemed it necessary to refer patients to a psychologist or psychiatrist as they were viewed as having more knowledge of the disorder.

The lack of confidence in diagnosing the disorder was associated with a lack of knowledge of ADHD. All participants stated that ADHD was barely covered in their syllabus at university. Participants had no recollection of adult ADHD mentioned within their syllabus at university, though a minority said that a very brief mention was made of ADHD in children.

> *It was hardly ever covered. In my psychiatry block it was hardly ever covered. Your emphasis was on the big ones. The big diseases, the depressions, the bipolar mood disorders, the schizophrenic, the personality disorders, things like that. ADHD didn't even feature as a huge component of what we received in psychiatry training.*
>
> *– Participant H*

The explanation by participant H that training at university focused on other mental disorders that were perceived to be more prevalent or more severe than ADHD may explain why participants (particularly those who were not confident diagnosing ADHD) were confident in diagnosing other mental disorders. Four participants described feeling confident in diagnosing depression, bipolar disorder and anxiety in particular. Mood disorders appeared to be perceived as easy to diagnose and treat. Participants described their familiarity with these disorders as a result of frequent exposure to patients needing treatment for them.

However, participants acknowledged that if they were to explore ADHD in adults further that they would feel more confident in diagnosing it. The four participants who were uncomfortable diagnosing and treating adult ADHD described their unfamiliarity with the disorder as being a lack of knowledge on their part as the disorder was not of particular interest to them.

NO [not comfortable diagnosing ADHD in adults] … I don't even feel comfortable diagnosing it in kiddies … I think it's because of a lack of knowledge from my side.

– Participant G

I need to, ideally, I think I do need to actually improve my knowledge in it …

– Participant B

In contrast, the four GPs that frequently diagnosed and treated adult ADHD with confidence appear to have a particular interest in the disorder. In three of the four participants, the interest was as a result of a personal connection to the disorder with either the participants themselves or their children having ADHD. This personal connection appeared to result in a vested interest which initially influenced the participant to do additional research and training on the disorder which they have since continued. The remaining participant attended training on ADHD out of professional interest in the disorder due to concerns of how various medications prescribed to patients would interact with ADHD and the treatment thereof. The additional training appeared to have a significant impact on the confidence that GPs displayed when diagnosing and treating ADHD.

Because I did a few, sort of the moment you get into it, and you've done a few extra courses, people start recognising [you] and then everybody starts coming to you. And they say, "But okay, this person does it better than that person."

– Participant A

It appeared that these participants had gained a reputation within their respective communities for effectively managing ADHD in patients. As a result, patients who suspected they may have ADHD sought them out for diagnosis and treatment. Consequently these participants appeared to see a number of patients with adult ADHD.

In contrast, the other half of the sample did not have a particular interest in the field of ADHD as their interests were in other areas of medicine. Naturally, the additional courses and reading that they did related to their respective areas of interest. Similarly to participants with an interest in ADHD, these participants saw more patients within their respective fields of interest. When these participants were faced with a patient suspecting they had ADHD they referred them to a psychiatrist or psychologist as they deemed them better equipped or to have more expertise in managing the disorder. These four participants very rarely saw patients with adult ADHD while the other half of the sample saw adults with ADHD regularly.

Resistance Toward Use of the DSM

The analysis of the data revealed feelings of frustration and exasperation surrounding the use of the DSM for the diagnosis of ADHD. These feelings emerged as a result of the perceived vagueness of the criteria and the subjective nature of the diagnosis which created uncertainty and resistance to using the criteria.

"The purpose of [the] DSM-IV is to provide clear descriptions of diagnostic categories in order to enable clinicians and investigators to diagnose, communicate about, study and treat people with various mental disorders" (APA, 1994, p. xxvii). The DSM-IV was designed to be utilised by a variety of clinicians, including physicians in primary care, to assist in making a diagnosis. However, when asked about diagnostic tools that are at the disposal of GPs, participants were of the view that there was no diagnostic tool available to them to diagnose adult ADHD. When making a diagnosis of ADHD, GPs did not consider using the DSM to assist them. Although, when asked about their views on the DSM, participants were able to

engage with the discussion and demonstrated knowledge of the diagnostic criteria. Thus, it appeared that the omission of the DSM when considering diagnostic tools was not due to a lack of awareness of the DSM but rather due to the participants not valuing the DSM as a diagnostic tool. To illustrate this, the two quotes below reflected the view of one participant, who within the same interview indicated that there was no shortlist of symptoms that could be used to diagnose ADHD before explaining that the DSM is used and it is considered functional. There appeared to be a perception that the DSM was relatively unnecessary or irrelevant within GP practice. Although there was knowledge surrounding its uses and composition it seemed participants perceived that there was not a need for it.

> *It's [diagnosing adult ADHD] a difficult thing, we don't have criteria. We don't have a shortlist of symptoms, have you got this, this, this, have you got 10 out of 15 so you must be ADHD, we don't have that. So normally it's a conversation you know? You explain to a person how people with ADHD are and then they identify themselves or not.*
>
> *– Participant C*

> *For the DSM-IV, we are still using it, it's functional but you know it's a completely administrative coding system that we break up diseases with … But you know it's quite loathsome, especially with a disease like adult ADHD, there is not coding that works well with diseases like this.*
>
> *– Participant C*

The DSM was considered rather laborious and "loathsome" for GPs to use as it was perceived to take a long time to go through the all diagnostic criteria for ADHD in order to confirm the diagnosis. Participants felt that eliciting the symptoms of ADHD required an open conversation with the patients rather than merely checking off boxes.

I think there are more finer things to it that actually shows it. Yes, there are definite signs, you know but you know there are the definite that they say but then they usually say, 'Most of A and most of B and then a little bit of C and D', you know it is like ... (laughs) … very broad

– Participant A

Additionally, the diagnosis of many mental disorders was perceived to be a subjective process which appeared to make GPs feel uncomfortable. Many GPs described the objectivity of the medical practice by using various examples of suspected diseases or conditions that one could objectively test for. A common example was the suspicion of high blood pressure which could quickly be confirmed or disproved through a simple test. The availability of objective tests provided GPs with a sense of certainty and confidence in their diagnosis. However, the lack of an objective test for mental disorders led GPs to feel less confident when diagnosing mental disorders as it allowed room for doubt. One of the reasons the diagnosis required a conversation may be due to the perception that there is no checklist to assist GPs in making a diagnosis that they could feel confident about. For example, it was expressed that such tools for diagnosis were available for mental disorders such as depression and anxiety. Two purposes may be served by providing GPs with definitive list of symptoms which require patients to meet a certain number of criteria in order to be diagnosed with the disorder. It would reduce the perception that diagnosing ADHD is a time-consuming process and may thereby encourage GPs to engage more with ADHD. Secondly, it may reduce the GPs' feelings of unease surrounding the subjective nature of the diagnosis by providing a checklist that is better suited within the biomedical paradigm in which the GPs position themselves. The subjective nature of the diagnosis was summed up by Participant B.

You see, chronic diseases, we've got the knowledge in our head. Now you see … with the chronic disease, like hypertension, we check your blood pressure is high and, based on obviously the guidelines, when their blood pressure is high for so many readings, it is definitely hypertension. So, it is objective. Now with stress, depression, ADHD it is not objective and for me that is the difficulty.

– Participant B

Furthermore, compounding the subjective nature of the diagnosis was the fact that patients were required to subjectively volunteer a variety of symptoms. This appeared to make some of the GPs feel uneasy as they questioned the accuracy of the symptoms. This was not an indication that they doubted their patients' honesty or recollection of their symptoms, but rather that it left GPs feeling uncomfortable as they were accustomed to utilising objective measures to test conditions.

(Sighs loudly) I think it [the DSM] is something you need because there must be specific things … But I find the DSM for depression and in ADHD are very vague things. And you can very easily fill in the DSM-IV for people that don't really have all the symptoms. And they don't really have the active diseases, but yes, they are inattentive most of the times, they are impulsive, they talk out and interrupt and all of those types of things. So you know to me it's very vague, I must be quite honest … Yes they use it. I know that and I think it is more a tool for the medical aids to decide whether they are going to pay or not.

– Participant A

The lack of use of the DSM was not isolated to adult ADHD and appeared to apply to all mental disorders that the GPs came across within their practice. Two of the participants indicated that they did not currently have a copy of the DSM as they did not have a use for it. Others professed to use the DSM if they were experiencing significant difficulty in diagnosing

a mental disorder but expressed that if that were the case they would likely refer the patient to a psychologist or psychiatrist who would then diagnose the patient according to the DSM.

When diagnosing ADHD in adults, rather than going through a set of prescribed criteria, GPs described asking questions relating to the perceived symptoms of the disorder discussed within the first theme. Thus, the majority of diagnosis of ADHD appears to take the following form within GP practice. Firstly, the patient entered the consultation and indicated that they had a suspicion that they may have ADHD. Secondly, the GP proceeded to ask the patient a variety of questions relating symptoms they had experienced and explored why the patient suspected they had ADHD. The GPs described a variety of questions which included:

- Whether patients were able to concentrate for a sustained period of time; for example they may ask if they could read an entire book or article without becoming distracted
- Whether they found themselves forgetting or losing important things
- Whether they experienced symptoms of impulsivity such as needing to get an adrenaline rush or to do something wild without thinking
- Whether they struggled in school or found school challenging
- Whether they were able to complete a task uninterrupted

Thereafter, the diagnosis was either considered a possibility or disregarded. For patients who seemed likely to have ADHD, the four participants who were comfortable diagnosing and treating ADHD would then go on to discuss treatment options with the patient. The other four participants would refer the patient on to a mental health professional to confirm the diagnosis, and to treat and manage the patient with ADHD. Thus it appeared that, in order to save time, the participants focused on the current symptoms causing impairment and did not obtain a childhood history, which is an important component of making the diagnosis.

With regard to treatment the results were mixed. Only 75% of the participants were willing to engage with the question of treatment as the other 25% participants would not

consider any form of treatment as they would refer to a mental health professional. Of the six participants willing to engage with the question of treatment, two voiced an unwillingness to prescribe medication as they felt Ritalin was addictive. These participants expressed that they would not treat the patient with medication, but were unable to discuss how they would treat ADHD if not with medication, and would ultimately defer to a mental health professional.

> *I won't do the Ritalin thing … Uhm, yeah I really don't feel comfortable prescribing Ritalin. I try to find more psychotherapy type stuff. And then if that doesn't help, I'll refer them for treatment.*
>
> *– Participant G*

The remaining four participants indicated that Ritalin would be their treatment of choice for adult ADHD, in particular the short-acting form of the medication. Participants perceived the treatment to be highly effective in adults. Findings revealed that pharmacological treatment for adults differed greatly from the treatment of children. While children were required to take their medication on a daily basis and were required to stringently adhere to the schedule, adults were encouraged to take the medication only when necessary. The decision of when to take the medication appeared to be highly subjective in nature and depend on which areas the patient experienced most difficulties in. The medication was only perceived to be necessary when the patient was in an occupational or educational setting. For example, patients were encouraged to take the medication when they were experiencing pressure at work and had deadlines to reach as the medication would allow them to sustain their attention and concentrate on the task at hand. Furthermore, it was noted that university students were regularly diagnosed and treated for ADHD and were encouraged only to take the medication when they were studying for examinations and writing examinations or assignments.

> *Then I find the short-acting Ritalin worked well. So if it is the board meeting then take one because it is going to last for four hours. Or if you have this big thing or whatever*

or you have to work late and there is deadlines to meet then take your Ritalin. You will get it done easier and that type of thing. So, I find in adults I don't treat them all the time like kids.

– Participant A

So if you are in a high pressurised job, you're a trader or practice manager or something like that, then take it when you need it … It really helps them and they are willing to pay for it.

– Participant E

Three doctors expressed concerns about the addictive nature of Ritalin. It was perceived to be addictive as it substantially increased the functioning of the patient. These participants appeared to show concern that patients would be dependent on the medication and would no longer feel they were able to function as efficiently without it. They perceived it to be frequently misused by patients to regulate their energy levels. However, the majority of participants did not perceive patients as misusing the medication and felt that there were other medications that were far more addictive than Ritalin. This majority were of the opinion that patients practised responsible use of their medication and were able to manage the treatment well in terms of taking the Ritalin when it was necessary.

Participants revealed uncertainty and a lack of knowledge of treatments used as an alternative to, or in addition to, medical treatment of ADHD. Though most expressed that they would refer patients with ADHD to a psychologist they did not appear to have an understanding of what the psychotherapy would entail. Participants seemed to view psychologists as useful in the treatment of adult ADHD. However, it is interesting that this assumption appeared to exist without an understanding of why therapy may be useful or how consulting a psychologist would be beneficial to a patient with ADHD.

Chapter 5: Discussion and Conclusions

Discussion

As GPs are often the first point of contact for individuals concerned that they may have a mental health disorder, it was meaningful to explore the attitudes of GPs toward adult ADHD as well as their methods of diagnosis and treatments of the disorder. The study placed an emphasis on exploring the experiences and opinions of GPs in order to gain insight into their understanding of the disorder and the practices that they employed as a result of their understanding.

The study yielded valuable results pertaining to the persistence of ADHD into adulthood which has been questioned in the literature and popular media. Previous studies which focused on GPs have largely found that only a small minority of GPs recognised ADHD as a lifespan disorder (Ghanizadeh & Zarei, 2010; Lian et al., 2003). However, participants within the current study held a unanimous conviction of ADHD as a disorder that does not subside after childhood. Adults with ADHD can be severely affected by the disorder and if left untreated the disorder has been shown to lead to a variety of adverse effects, such as job loss and divorce (Davidson, 2008; Shaffer, 1994). The acceptance of ADHD as a lifespan disorder within the current study appears to be an indication of an increased recognition of adult ADHD within the South African context. This recognition of adult ADHD as a disorder is an important step to ensuring that patients are treated for the disorder and not merely dismissed or mistreated. While there is an acceptance of adult ADHD as a legitimate disorder requiring treatment it does not follow that GPs are necessarily comfortable diagnosing or treating the disorder.

The role of GPs in the care of adults with ADHD cannot be understated. The increasing acceptance in the past 30 years that ADHD is a disorder which affects adults suggests that the number of adults seeking help for ADHD will continue to increase. This help is increasingly being sought from GPs rather than specialists (Faraone & Antshel, 2008). Thus the

responsibility for diagnosing, treating and referring patients with mental health disorders is more often falling on GPs (Wittchen et al., 2003). Wittchen et al. (2003) suggest that GPs play a fundamental role in diagnosing, treating and referring patients with mental disorders as over one-third of their consultations consist of a psychological element. Patients generally referred to a GP for help with a mental disorder as they had established a relationship with their GP and thus felt more comfortable discussing difficult issues with them. There was less stigma associated with consulting with a GP for mental health reasons than a psychologist or psychiatrist. Additionally, GPs were considered more accessible and more affordable than specialists. As a result it is becoming increasingly important for GPs to be able to accurately diagnose and treat a variety of mental disorders, including adult ADHD. However, a number of variables make the diagnosis of adult ADHD a complex matter for GPs. Before discussing these variables it is important to consider the role of GP practice within the South African context.

South Africa is largely considered to have a dysfunctional health system which stems from a history of discrimination based on race (Coovadia, Jewkes, Barron, Sanders & McIntyre, 2009). The infrastructure of the country has been shaped by Apartheid and the multitude of unjust laws and the subjugation of Non-White people that took place as a result of policies implemented prior to the first democratic elections in 1994. The history of the country has had a prominent impact on the health policies and services provided in the present day. After 21 years of democracy South Africa continues to grapple with the legacy of Apartheid and the challenges associated with transforming institutions and achieving equity in the development of infrastructure and institutions (Coovadia et al., 2009). An important influence on the access to health care for South Africans has been the continuing impoverishment of the Black majority in the face of White affluence. Despite assertions that redressing wealth disparities was a key goal of the democratic government, wealth disparities

continued to grow in the first decade of democracy (Coovadia et al., 2009). During Apartheid, health facilities in South Africa were racially segregated, with the Black population limited to underfunded public health-care systems, while Whites had access to private health care through medical schemes, which until the late 1970's were restricted to the White population (McIntyre & Dorrington, 1990). Post 1994, the public health system was transformed into an integrated national service which provides essential health care, to mostly previously disadvantaged members of the population, at no cost to the user. As of 2009, less than 15% of the population were members of private sector medical schemes while 21% of the population paid personally for care within the private sector, to visit GPs, but relied on the public sector for hospitalisation. The remaining 64% of the population rely entirely on the public health sector for all health-care services. GPs in South Africa therefore cater for an estimated 36% of the population which consists of mainly middle and high income earning households (Coovadia et al., 2009).

The current study may be said to provide insight into health care professionals who treat a minority of the population. However, when one considers recent research by the University of Cape Town's Unilever Institute of Strategic Marketing into the changing economic landscape of South Africa which estimates that the Black middle class population is rapidly increasing (from 1.7 million in 2004 to 4.2 million in 2012) while the White middle class has remains relatively stagnant (University of Cape Town, 2013). One can therefore assume that the numbers of people using private health care will increase as the incomes of families increase. When this assumption is considered in conjunction with assertions that GPs are already being asked to treat mental health disorders with increasing frequency and the high prevalence rates of adult ADHD, the importance of exploring the attitudes and practices of GPs in private practice in South Africa becomes evident (Faraone & Antshel, 2008; Wender et al., 2001). The current study indicates that these attitudes and practices are influenced by a variety of factors.

This study produced valuable results and insights with regard to the complex nature of the diagnosis of adult ADHD for GPs. It is well established that making the diagnosis of adult ADHD is challenging and at times controversial due to diagnostic difficulties (Asherson, 2005; Barkley & Biederman, 1997). However, for GPs diagnosing adult ADHD, this is particularly challenging due to the way their consultations are structured. The nature of GP practice is not tailored for screening for mental health disorders. The average consultation time of between 12 and 15 minutes influences the way that diagnoses are made. GPs experience extreme pressure to diagnose their patients for their presenting problem within the constraints of a limited consultation time. The focus of the consultation is generally solely on the presenting concern and GPs are largely unable to inquire about additional difficulties that the patient may be experiencing. Hence, unless a patient voices ADHD as the presenting concern it is unlikely that the diagnosis will be made. The diagnosis of adult ADHD is further complicated by the perception that making the diagnosis is particularly time consuming, which further compounds the feeling that there is not enough time during the consultation to make the diagnosis. In particular, the DSM-IV requirement that the patient must display symptoms before the age of 7 influences the perception that the diagnosis was too time consuming to make within an average consultation as the need to explore a patient's childhood history seemed to protract the process of diagnosis (APA, 1994). These findings support common debates about the appropriateness of the existing diagnostic criteria for adults (Kessler et al., 2010). As it is well documented that symptoms and manifestations of ADHD change with age, a method of diagnosis that takes the developmental stage of the patient into consideration may feel more appropriate to GPs and may encourage GPs to engage with the diagnosis more frequently (Bolea et al., 2012; Faraone et al., 2000; Mannuzza et al., 2003).

The process of diagnosing the disorder was perceived to be better suited to consultations with a psychologist or psychiatrist who spend more time with the patient. However, studies

have found that psychiatrists and psychologists also experience difficulties with the diagnosis of ADHD as they are concerned with the accuracy of the DSM-IV diagnostic nomenclature of the disorder. As a result of this Rafalovich (2005) found that psychologists and psychiatrists take an extended amount of time to assess the nature of problems the patient experiences. The participants of the current study echoed the views of psychiatrists and psychologists, who viewed the DSM-IV as a general guide to ADHD but felt that it did not account for a variety of additional factors that required clinical judgement for diagnosis (Rafalovich, 2005).

The majority of adults diagnosed with ADHD by GPs have been exposed to the disorder through research or the media and are able to identify with the symptoms. These adults specifically approach their GPs to inquire about the possibility that they may have ADHD. The idea that adults are more likely to be positively diagnosed with ADHD if they are exposed to information regarding the disorder raises important questions about the value of the public awareness of a disorder and the media's role therein. In order for the discussion around ADHD to take place between patients and their GPs, and for potential treatment to begin, the patient needs to first be aware of the disorder to be diagnosed and treated. Adults who have not been exposed to information about the disorder will remain unaware that the disorder exists and that there is treatment available that can alleviate their symptoms and decrease the difficulties they experience on a daily basis. Prevalence rates of adult ADHD are estimated at approximately 4.4% and a large majority of those cases are untreated (Kessler & Adler, 2006). When one considers the severe impact ADHD can have on the personal and occupational functioning of 4.4% of adults, it may be important to find ways of increasing the possibility that treatment is received. While members of the public widely know what actions to follow for major physical diseases, the same cannot be said for mental illness. There is a general lack of public knowledge of what help-seeking options and treatments are available for mental illnesses (Jorm, 2012). One key reason that individuals fail to seek professional help for a mental illness is a failure to

recognise that they may have a mental illness (Gulliver, Griffiths & Christensen, 2010). While it is important that the individual recognises that they may have a mental illness, in order get the most effective help they need to know the options in terms of the help that is available and the treatments available for the disorder. Mental health literacy in terms of community-wide interventions, comprising intensive education campaigns, have been shown to be useful in spreading knowledge and expertise for how to cope with mental disorders across whole communities (Joa et al., 2008; Jorm, 2012). Studies indicate that adults with ADHD treated with stimulant medication experience fewer symptoms and improvements in daily functioning than adults with ADHD who do not receive treatment (Surman, Hammerness, Pion & Faraone, 2013). Thus, the study highlights an essential need to raise public awareness and knowledge of adult ADHD in order to enable them to approach their GP with the suspicion that they have ADHD.

Complicating the diagnosis of adult ADHD (and other mental disorders) further is the perception that the diagnosis is a highly subjective process. The perceived subjectivity of the diagnosis leaves GPs feeling uncertain about whether their diagnosis is accurate. Feelings that the diagnosis is subjective may be influenced by concerns over pathologising normal behaviour and placing a medical diagnosis on behaviour that was inconvenient to society (Shaw et al., 2003). Participants emphasised that the diagnosis was based on subjective parameters rather than objective scientific measures. This uncertainty was deemed to result from GPs positioning themselves within the medical model where it is the norm for objective tests to be conducted in order or prove or disprove a diagnosis. The reality that there are no such objective biological tests for ADHD leaves participants feeling generally uncomfortable (Wasserstein, 2005). The participants expressed concern that the symptoms may be exaggerated by the patients or misinterpreted by themselves. GPs generally feel comfortable and confident in diagnosing somatic illnesses as their medical training allows them to trace the causality and epidemiology

of the illness which also enables them to feel comfortable in their treatment of choice. However, the diagnosis of mental disorders, particularly ADHD, often creates uncertainty and debate as the aetiology remains unclear (Baumeister & Hawkins, 2001; Petrolini, 2015; Rafalovich, 2005). Within general medicine, doctors have a clear understanding of how organs normally function and are therefore able to detect illness relatively easily or "with a small margin for error" (Petrolini, 2015, p. 1). This is often not the case when one is required to diagnose a mental disorder as there is no ideal model of functioning and the concept of normal behaviour is subjective (Petrolini, 2015).

Factors that all play a role in the low rates of diagnosis of adult ADHD by GPs include: the nature of GP practice; time constraints; unfamiliarity and subjectivity of the diagnosis of ADHD; and diagnosis being better suited to psychologists and psychiatrists. However, these findings indicate in essence that many GPs are reluctant to be responsible for the primary care of adults with ADHD. Shaw et al (2003) attribute GPs' low levels of interest in being highly involved with the management of ADHD to concerns that they may make the incorrect initial diagnosis. "The GPs' perceptions of their limited capacity to conduct the diagnostic assessment may underpin this concern" (Shaw et al., 2003, p. 133). Training may increase their knowledge and may make them more confident in diagnosing and treating the disorder. The current study, like the study conducted by Louw et al. (2009), indicates that South African GPs feel that they have not had adequate training in ADHD. South African universities appear to follow an international trend which largely neglects mental disorders in the training of medical doctors. Specifically, the training that medical doctors worldwide receive on ADHD is considered to be inadequate (Ghanizadeh & Zarei, 2010; Lian et al., 2003; Louw et al., 2009). The limited training that medical students do receive during their time at university appears to focus on depression and anxiety. The training received on depression and anxiety appears to result in an increased confidence for GPs when diagnosing and personally treating and

managing such disorders (Louw et al., 2009). However, when one considers ADHD, GPs worldwide express a lack of confidence with regard to the diagnosis and treatment of the disorder, a sentiment which is mirrored in the current study (Ghanizadeh & Zarei, 2010; Lian et al., 2003; Shaw et al., 2003). The GPs in the current study who were confident in diagnosing and managing the disorder themselves had undertaken additional research and training on the disorder, indicating that feeling comfortable diagnosing and treating a disorder may be correlated to the amount of training received on a particular disorder. This finding highlights the importance of training at university in order to increase rates of diagnosis and treatment of pertinent mental disorders. The confidence in treating depression and anxiety may also be influenced by the frequency with which GPs come into contact with patients with these disorders. The confidence in diagnosing depression and anxiety may be as a result of GPs having more experience with these disorders than with adult ADHD, which may allow them more opportunity to diagnose and treat the disorder and thereby increase their confidence (Louw et al., 2009).

In order for GPs to feel more confident in diagnosing adult ADHD it may be useful to employ diagnostic measures which better appeal to those within the biomedical paradigm. This may be achieved by simplifying the diagnostic process and having a universal means of diagnosis for GPs. A diagnostic tool which is better suited to the nature of GP practice may allow GPs to feel more confident, and therefore, better able to diagnose the disorder. Despite the participants' awareness and knowledge of the DSM it was not considered an appropriate diagnostic tool to utilise when diagnosing adult ADHD. The DSM was not seen to be appropriate for the nature of GP practice as it was considered time consuming, as well as subjective in nature. If GPs are expected to diagnose mental disorders it seems important that that they are equipped with appropriate diagnostic tools in order to do so (Faraone & Antshel, 2008). Although a variety of rating scales for adult ADHD have been developed, participants

were unaware of the availability of such scales. Such scales were "developed to provide adjunctive diagnostic data, assess the severity of symptoms, and provide a means of assessing change in treatment" (Adler et al., 2008, p. 712). One example includes the Conner's Adult ADHD Rating Scales (CAARS) which was developed for individuals 18 years and older. The results from the screening version of the CAARS can be organised to indicate a total DSM-IV score, thus relieving the GPs of using the DSM itself, but allowing for consistency when diagnosing ADHD. The CAARS has been shown to have good internal consistency and inter-rater reliability, which may appeal to GPs, as studies demonstrate scientific validity and reliability (Adler et al., 2008).

GPs are more familiar with the concept of childhood ADHD than adult ADHD, and come into contact with it more frequently. As a result many medical practitioners remain unfamiliar with the symptoms that present more subtly in adulthood, and because of the focus on the symptoms experienced by children as explained in the DSM-IV, many adults are overlooked by practitioners (McGough & Barkley, 2004; Weiss & Murray, 2003). It is interesting to note that despite the lack of university training on ADHD and the lack of use of a diagnostic tool for adult ADHD the symptoms that GPs considered as indicative of adult ADHD appeared to be in line with current literature on adult ADHD. ADHD in adulthood is described as including difficulties with attention, such as forgetfulness and organisational problems, which become increasingly evident as the individual gains more responsibility. Procrastination, a lack of motivation and poor time management are symptoms commonly experienced by adults which are not included in the DSM-IV criteria (Weiss & Weiss, 2004). Forgetfulness is also highly characteristic of adults with ADHD but is directly linked to the overarching criteria of inattention, rather than being a symptom of ADHD on its own (Asherson, 2005).

Finally, although the attitudes of GPs toward ADHD as a disorder appear to be positive (with an overwhelming acknowledgement of the disorder) the attitudes toward patients with ADHD appear to be far more negative. The perception that adults were expected to develop adaptive coping mechanisms throughout their lifespan, particularly during childhood, may provide further insight into the attitudes of GPs towards ADHD. Though participants expressed their acceptance of the disorder, adults were expected to be able to "cope" with the disorder. Those who were unable to manage the disorder on their own are viewed by participants and society as unlikely to achieve their potential as they consistently underachieve. When compared to depression and anxiety, individuals with adult ADHD are expected to be able to cope, adapt and adjust to their disorder and ultimately function as contributing members of society. The media often emphasises successful individuals who have ADHD and often outperform others. For example, celebrities such as Sir Richard Branson, Michael Phelps, Ty Pennington and Jamie Oliver are often discussed in the media with specific relation to their diagnosis of ADHD (Adult Attention Deficit Disorder Center of Maryland, 2015; Irish Independent, 2012). Such publications may influence professional and public perceptions that adults with ADHD should be able to manage their disorder and potentially be successful as a result of it (Fleischmann & Miller, 2012). Those who are unable to utilise adaptive coping mechanisms and compensate for their difficulties are seen are seen as doomed to fail in the workplace, which ultimately leads to difficulties within their personal lives (Frazier, Youngstrom, Glutting & Watkins, 2007). The perception that adults should be able to cope may further influence GPs' reluctance to be the primary caregivers for adults which may also influence the low rates of diagnosis.

Conclusions

Although ADHD has become more recognised as an adult psychiatric disorder in recent times, the diagnosis and prevalence of the disorder in adulthood remains controversial. ADHD

is one of the most frequently diagnosed disorders of childhood but is not commonly diagnosed or treated by mental health-care practitioners in adulthood. This is despite the acknowledgement of ADHD as a lifespan disorder. As GPs are often the initial point of contact for people concerned that they may suffer from a mental illness, the perceptions and practices that GPs follow regarding ADHD are of key importance. The purpose of this study is to provide insight into the attitudes held by GPs toward adult ADHD and to explore their practices when diagnosing and treating the disorder in adulthood.

The study found that South African GPs appear to be progressive in their attitudes toward the diagnosis of adult ADHD. GPs acknowledged that the disorder often persists into adulthood rather than dissipating after childhood, which indicates an awareness and acceptance of the disorder within the South African context. ADHD was considered a lifespan disorder which can have far reaching and severe consequences for those affected. Adults with ADHD were expected to have learnt adaptive coping mechanisms which enabled them to manage their disorder within their personal lives. However, coping mechanisms were often deemed inadequate for many patients within stressful work environments and these patients were perceived to be severely affected by the disorder. While ADHD was perceived to affect adults most extensively within the workplace, these difficulties were seen to directly result in difficulties within their personal lives as well. For these, treatment was deemed essential and GPs were willing to assist patients to receive the appropriate treatment. Two factors in particular influenced the rates of diagnosis of adults ADHD by GPs, namely: the lack of formal training in diagnosing the disorder and the severe time constraints of a consultation.

Though GPs believed that adult ADHD required adequate treatment and management they were unable to diagnose the disorder on a day-to-day basis as it was not in the nature of GP consultations to diagnose disorders that are not raised as the primary concern. The diagnosis of adult ADHD was challenging as GPs felt pressured to make a correct diagnosis

and treat the patient for their presenting concern. They were unable to make additional inquiries that would lead to a diagnosis of adult ADHD if it was not relevant to the presenting concern. Thus, findings of the current study highlighted the importance of public awareness of the disorder in order to allow patients to approach their GP and raise their concerns of the possibility of having ADHD.

The difficulties in diagnosing adult ADHD were compounded by the seemingly subjective nature of the diagnosis. GPs felt uncertain when making the diagnosis, as they were unable to conduct empirical tests which could confirm the diagnosis. These findings highlighted a need for a diagnostic tool which was quick to administer. Such a tool would allow GPs to feel more confident in their diagnosis but may also encourage them to consider the diagnosis of adult ADHD more frequently as the diagnosis would not be a time-consuming process. Such screening measures are readily available but need to be brought to the attention of practitioners.

Additionally, GPs expressed a lack of knowledge on adult ADHD as a result of a lack of training on the disorder during their studies at university. It was found that additional training and research into the disorder increases the GPs' confidence in diagnosing the disorder and therefore the rates of diagnosis of adult ADHD.

Although the study yielded valuable insights into the understanding of the attitudes and practices of GPs toward adult ADHD, a number of aspects could not be incorporated into the study. It was therefore deemed necessary to provide information regarding the limitations of the study and discuss recommendations for future research.

Limitations of the Study

One limitation of the study was the small sample size. From the findings of the study, it is clear that GPs work in a highly pressured environment and see patients every 15 minutes. The poor response rate of 30% to the invitation to participate in the study appeared to be

influenced by the time constraints that GPs experience. Face-to-face interviews as a method of data collection appeared inconvenient to the participants as they experienced difficulty accommodating the interview into their schedules. It appears possible that response rates may have been higher if the researcher had made use of questionnaires. Questionnaires may have suited participants better as they would be have been able to complete them in a manner and at times that was more convenient to them, for example, between patient appointments or at home in their personal time. All of the participants chose to undertake the interviews during consultation hours at their respective practices as this was most convenient. Unfortunately, as a result, the interviews were frequently interrupted and participants often appeared to rush to conclude the interviews as pressing matters arose. The rushed nature of the interviews may have limited the results obtained as detailed descriptions of answers could not always be obtained.

Additional methodological limitations are evident in this research. It should be acknowledged that the sample selected was not representative or randomly selected. Participants were selected on the basis of convenience and as a result a level of volunteer bias could be expected. Furthermore, a majority of the sample were White and from westernised backgrounds which may provide homogeneity in their perceptions of ADHD. A variety of cultural factors and expectations may influence the GPs' perceptions of adult ADHD (Asherson et al., 2012). Thus, results may have varied if the sample provided insights into the perceptions of GPs from a larger variety of cultural backgrounds.

The narrow focus of the research further limited the findings of the research. As this study was limited to GPs in private practice it is important to consider that the views of GPs working within the public sector are not represented. The patients seen by GPs in private practice often have higher levels of education and higher socioeconomic status than patients seen in the public sector. Patients seen in the private sector may have a greater awareness of

mental illness generally, and ADHD specifically, as they may have more access to information. It must be considered that many studies raise questions as to the degree that behaviour and mental disorders are affected by culture (Meyer, Eilertsen, Sundet, Tshifularo & Sagvolden, 2004). Thus GPs in the private and public sectors in rural areas within South Africa may have a completely different experience of adult ADHD, which were not explored in the current study. Further studies may need to be conducted in order to establish the attitudes of GPs in the public sector and in rural settings toward adult ADHD.

Finally, many participants indicated that they would refer patients with ADHD to a psychologist. However, participants did not appear aware of what treatments would be utilised or what therapy for adults with ADHD would entail. Although this may be as a result of limited information and limited research into psychotherapeutic interventions for ADHD the role of the researcher must also be taken into consideration (Asherson, 2005). Responses to this question may have been influenced by the participants' cognisance that the researcher was currently completing her postgraduate degree in psychology. The participants may therefore have felt obligated to acknowledge the profession in which the researcher was oriented in order to be seen as good enough in the eyes of the researcher. It is possible that participants felt that the researcher would have then expected them to answer with a positive response to questions surrounding referrals to a mental health professional.

Recommendations for Future Research

Findings of the present study indicated a lack of confidence in diagnosing a variety of mental health disorders. This lack of confidence appeared to be as a result of a lack of training and exposure to the disorders while studying toward a Bachelor of Medicine and Surgery. Participants who had undertaken additional training and research after obtaining their degree appeared to be more confident in diagnosing ADHD in adults and were also comfortable treating these patients themselves, rather than referring them elsewhere for treatment. As it is

foreseen that GPs will be required to diagnose and treat mental illness at increasing rates in the future, it is important that GPs are able to make such diagnoses comfortably and capably. Furthermore, as GPs are the first point of contact for a large number of patients with a mental disorder further research into ways of increasing the accuracy and ease of diagnosis and treatment of mental disorders by GPs needs to be conducted. Thus, research, education and training for GPs on the diagnosis and treatment of mental disorders may be useful. Currently practitioners registered with the HPCSA are required to amass 30 Continuing Education Units (CEUs) per year, of which a minimum of five should be for ethics (HPCSA, 2008). Considering the increasing rates at which GPs are required to diagnose and treat mental disorders as the first point of intervention it may be useful to stipulate a minimum requirement for CEUs for psychiatry per year in order to increase the base knowledge on mental disorders (Wittchen et al., 2003). GPs would then be additionally exposed to a variety of diagnostic tools that are available for the diagnosis of mental disorders. GPs require diagnostic tools which are quick and easy to use in order to make the most of their limited consultation time. Many self-rating and clinician-rating scales are available for GPs to use. However, there appears to be lack of awareness of the available valid and reliable scales (Adler et al., 2008).

The study revealed important findings regarding the nature of the diagnosis of adult ADHD by GPs in South Africa. It was evident that patients with ADHD remained undiagnosed by GPs until such a time as the patient expressed concern that she or he may have ADHD. The present study highlights an essential need for public awareness of adult ADHD as a disorder. Only patients who are aware of the symptoms and potential treatment of ADHD are able to approach their GP to request assistance. Thus, it may be valuable for future research to focus on the public awareness and knowledge of ADHD. Such research may enable future awareness campaigns to take place in order to increase rates of diagnosis. Although GPs are the initial point of contact for many individuals with a mental health problem, it is currently not their

primary role or function to screen for and detect mental health problems. In this regard, self-screening measures may be useful tools for the public to utilise before approaching their GP with concerns that they may have ADHD.

Furthermore, the current literature review and findings revealed a lack of knowledge and research into the role that psychologists and psychotherapy play in the treatment of adult ADHD. As a result of confusion around the aetiology of ADHD and the dominance of the biomedical paradigm of ADHD, pharmacological interventions are often seen as a superior form of treatment (Graham, 2006; Visser & Jehan, 2009). Further research into effective forms of psychotherapeutic interventions for ADHD and the role of multidisciplinary interventions are required in order to allow practitioners to tailor treatments to their patients and to make appropriate referrals with confidence.

Studies on ADHD in general in South Africa are limited and further research is required. In order to further explore the idea of ADHD as a cultural construct, future research into ADHD within rural settings would be useful. The experience of individuals and health care professionals in rural communities of South Africa remains largely unknown. Further studies in contexts removed from westernised urban environments of South Africa need to be conducted in order to better understand the nature and presentation of ADHD.

Though there was concern that the release of the DSM-5 while the study was being conducted would somehow affect the impact or relevance of the findings, this seemed not to be the case. Participants unanimously expressed the view that the DSM was used infrequently or never as a result of perceptions that it was cumbersome and time consuming to use. If GPs are expected by the public and other professionals to accurately diagnose, and often treat, mental health disorders it is recommended that future studies are conducted to explore how diagnostic tools used by psychiatrists and psychologists, such as the DSM, can be integrated into GP practice.

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Appendices

Appendix A: Ethical Clearance to Conduct Research

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (SCHOOL OF HUMAN & COMMUNITY DEVELOPMENT

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: MACC/13/006 IH**
PROJECT TITLE:	The Attitudes of General Practitioners in Private Practice Toward Adult Attention-Deficit/Hyperactivity Disorder
INVESTIGATORS	Nightingale Tehne-Brigitte
DEPARTMENT	Psychology
DATE CONSIDERED	08/04/13
DECISION OF COMMITTEE*	Approved

This ethical clearance is valid for 2 years and may be renewed upon application

DATE: 11 April 2013

CHAIRPERSON
(Professor Andrew Thatcher)

cc Supervisor: Dr. V Jithoo
Psychology

DECLARATION OF INVESTIGATOR (S)

To be completed in duplicate and **one copy** returned to the Secretary, Room 100015, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure, as approved, I/we undertake to submit a revised protocol to the Committee.

This ethical clearance will expire on 31 December 2015

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix B: Participant Information Sheet

Psychology
School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559

Dear Doctor

Good day. My name is Téhne Nightingale, I am currently completing a Masters degree in Community-based Counselling psychology at the University of the Witwatersrand. As part of the completion of the degree I am conducting a research project. The aim of the research is to explore the views that general practitioners hold toward adult ADHD as well as exploring the diagnostic and treatment practices of the disorder. General practitioners are often the first point of contact for patients concerned they may have ADHD and as such the views held may influence how ADHD is diagnosed. I would like to invite you to participate in the study.

Your participation in the research project would entail taking part in one individual interview lasting approximately twenty to thirty minutes. The interview will be scheduled telephonically or over email for a time and location suitable to you. With your consent the interview will be audio recorded to allow for accuracy of transcriptions of the interview. Confidentiality is guaranteed as only my supervisor and I will have access to the transcripts and recordings. The transcripts and recordings will be securely stored. Transcripts will contain no identifying personal information and recording will be destroyed on completion of my degree. If direct quotations are used in the research report a pseudonym will be used to ensure your anonymity, furthermore any information that may identify you will be removed or changed in order to protect your identity.

Your participation in the study is entirely voluntary and you may withdraw from the study at any point without any negative consequences. If there are any questions that you would prefer not answer you are free to do so. There are no foreseeable risks or benefits to your participation in this research project. The research will take the form of a written research report and an executive summary of the findings will be made available to you upon request, via email, approximately six months after the interview.

My contact details as well as the contact details of my supervisor are included below should you have any queries.

Sincerely,

Ms. Téhne Nightingale
Email Address: tehne23@gmail.com
Contact number: 0766173979

Dr. Vinitha Jithoo (Supervisor)
Email address: Vinitha.Jithoo@wits.ac.za
Contact number: 0117174523

Appendix C: Participant Consent Form

Informed Consent for Interview

Psychology
School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559

I……..hereby consent to take part in Téhne Nightingale's study on the views of general practitioners towards adult Attention Deficit/Hyperactivity Disorder.

I am aware and understand that:

- Participation in the research project involves an individual interview
- Information that I provide during the interview will be kept confidential and that my anonymity will be guaranteed in the research report
- That there are no foreseeable risks or benefits for my participation in the research project
- Direct quotations may be used in the research report but will in no way reveal my identity
- I have the right to withdraw from the research at any point
- I may chose not to answer any questions that I would prefer not to
- No identifying information will be used in the research report

Signed …… Date ……

Appendix D: Audio Recording Consent Form

Informed Consent to Audio Recording

Psychology
School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559

I …….. hereby consent to the audio recording of my individual interview with Téhne Nightingale for her study on the views of general practitioners towards adult Attention Deficit/Hyperactivity Disorder.

I understand that:

- The recordings and transcripts of the interview will not be seen or heard by anyone other than the researcher and her supervisor
- All recordings and transcripts will be securely stored at all times
- All recordings and transcripts will be destroyed after a period of three years
- Pseudonyms will be used on the transcripts
- No identifying information will be used in the research report

Signed…… Date……..

Appendix E: Semi-structured Interview Guide

1. Where did you study?
2. What did you study?
3. How long have you been in private practice?
4. What has it been like being in private practice?
5. Have you had any additional training in the field?
6. What kind of exposure have you had with adult ADHD?
    a. How do you see adult ADHD compared to childhood ADHD?
    b. What popular myths have you come across (in terms of how people understand ADHD) --- how do you engage with patients' and other peoples' perceptions?
7. What are some of the signs and symptoms you see? What range of symptoms do you see that helps you come to the diagnostic criteria?
8. What kinds of diagnostic methods do you use to diagnose adult ADHD? (The kinds of questions you would as, or the testing you would do)
    a. What kinds of training have you had on the topic of adult ADHD?
    b. How do you feel about diagnosing adults with ADHD?
9. How do you understand the causes of ADHD?
10. What kinds of treatment protocols would you use after you have diagnosed adult ADHD?
    a. At what point would you decide to refer an adult with ADHD to another professional, and which professional would you then refer to?
    b. Have you ever referred a patient you suspected may have adult ADHD to a mental health professional (such as a psychologist or psychiatrist)
11. Is there anything you would like to add or comment on, or perhaps something that you feel we have not discussed?