ADULT ATTENTION DEFICIT HYPERACTIVITY DISORDER

An essay submitted for the partial fulfillment of Master Degree in neuropsychiatry

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List of Abbreviations

5HT	Serotonin
ADD (H)	Attention deficit disorder -with or without hyperactivity
ADHD	Attention deficit hyperactivity disorder
ADHD NOS	Attention deficit hyperactivity disorder not otherwise specified
AMP	Amphetamine
ASRS	Adult self report scale
CAARS	Conners adult ADHD rating scale
CBT	Cognitive behavioral therapy
CD	Conduct disorder
COWAT	Color word association test
CPT	Continuous performance test
DA	Dopamine
DSM	Diagnostic and statistical manual of mental disorders
DSM-IV-TR	Diagnostic and statistical manual of mental disorders text Revision
EEG	Electroencephalogram
EPI	Epinephrine

f MRI	Functional magnetic resonance imaging
ICD 10	International classification of diseases, 10^{th} edition
MAO	Mono amine oxidase
MAOI	Mono amine oxidase inhibitor
MDD	Major depressive disorder
MPH	Methylphenidate
MRI	Magnetic resonance imaging
NE	Norepinephrine
ODD	Oppositional defiant disorder
PDD	Pervasive developmental disorder
PET	Perfusion emission tomography
SNRI	Selective norepinephrine reuptake inhibitor
SSRI	Selective serotonin reuptake inhibitor
TCA	Tricyclic antidepressant
WAIS	Wechsler adult intelligence scale
WCST	Wisconsin cad sorting test
WRAAS	Wender-Reimherr attention deficit disorder scale

Introduction & Aim of The Work

Introduction

At one time, attention deficit hyperactivity disorder (ADHD) was considered strictly a childhood condition, outgrown in adolescence and of little consequences for adult mental health. Research indicates, however, that the disorder persists into adulthood in 30%-70% of affected individuals often with serious consequences ***(Murphy et al, 2000).***

As children with ADHD diagnoses reach adulthood there is an increasing interest in 'adult ADHD'. Self-referred adults, sometimes relatives of children with ADHD, are also of interest regarding adult ADHD. Innovative work is being done examining this issue in these groups, but heterogeneity among those diagnosed with ADHD and changes in classification systems and diagnostic criteria over time complicate comparison of research findings. The diagnostic validity of adult ADHD remains uncertain and needs further study ***(Zwi et al, 2004).***

ADHD is associated with a distinct pattern of challenges at each stage of development; in childhood, in adolescence, and in the adult years **(*Weiss& Murray, 2003).***

ADHD is not an all or nothing diagnosis, there appears to be a curve of behaviors, personality types, ranging from extremely non ADHD, to extremely ADHD although there has not been enough research in the field to know the slope of this curve , it resembles a bell curve with the majority of normal individuals falling somewhere in the

center showing a few ADHD like characteristics & a minority perhaps somewhere around 20-30% of the population being split up on 2 extreme ends of the spectrum ***(Hartmann, 1997).***

The Diagnostic & statistical manual of mental health diseases –fourth edition- (DSM-IV) defines subsyndromes of ADHD in children as: a predominantly inattentive type, predominantly hyperactive impulsive type, and combined type. No definition is provided for the syndrome in adulthood. Recent interest in the condition in adults has been accompanied by the appearance of a number of readily available scales for screening adults and aiding in the diagnosis of ADHD in this age group. However, there are few published data on the validity and reliability of such measures ***(McCann, 2004; Wender, 2000).***

Diagnosing adult ADHD is difficult and many adults realize they have ADHD when their children are diagnosed with it. ADHD may be misdiagnosed as another later onset condition such as atypical depression, hypomania, and mixed personality disorders ***(Casey, 2003).***

ADHD in adults is associated with significant social, legal, occupational, and psychiatric difficulties. Its cardinal symptom is not necessarily hyperactivity but, rather, symptoms of inattention resulting in disturbances and impairments across a wide range of cognitive functions, including 1) organizing and activating work, 2) sustaining attention and concentration, 3) sustaining energy and effort for work, 4) managing affective interference, and 5) using and accessing information. Each of these skills can be

divided and subdivided into skills critical to the attainment of professional and social success ***(McCann, 2004; Benedek, 2003).***

The diagnosis and treatment of ADHD throughout the life cycle lack standardization. A result is that physicians tend to poke at the disorder, undermedicating and operating on the outdated assumption that ADHD disappears after school. Many physicians attempt to treat ADHD without awareness of the potential for comorbid illness and the need for frequent and flexible follow-up appointments that last more than 3–5 minutes ***(Horton, 1999).***

Adults with ADHD benefit considerably from direct education about the disorder. They can use information about their deficits to develop compensatory strategies. Learn how to plan for their life, organize their work, develop ways to reduce distraction, learn to adapt in everyway. If the difficulties associated with ADHD are managed appropriately throughout their lives, adults with ADHD can learn to develop personal strengths and become productive and successful ***(Grayson, 2004; Searight et al, 2000).***

Aim of the Work

1. Highlighting the importance of ***diagnosing*** and establishing ***diagnostic criteria*** for adulthood type of ADHD as a separate disorder in adults which is usually underestimated and misdiagnosed.

2. Clarifying the ***correlation*** between the childhood disorder and the appearance of the adulthood type of ADHD.

3. Estimating the ***comorbidities*** with adult ADHD and their implications on diagnosis.

4. Revising the different ***investigations*** concerning functional and structural abnormalities in adults with ADHD.

5. Reviewing the different ***lines of treatment*** of adult ADHD.

Chapter 1

Chapter 1
The Historical Evolution of Attention Deficit Hyperactivity Disorder

The concept of Attention deficit hyperactivity disorder (ADHD) has developed over time. In 1902, ***Still*** provided the first scientific glimpse at groups of children who exhibited characteristics similar to symptoms ascribed to modern criteria for ADHD. He attributed the constellation of symptoms to a defect in "moral control". These early insights by ***Still*** set the stage for a century of scientific inquiry that lead to the current concepts of ADHD ***(Doyle, 2004).***

Since then many authors have studied ADHD however few of them mentioned that it can persist into adulthood including ***Harticollis*** In 1967 and ***Borland & Heckman*** in the 1970s ***(Colla, 2004)***.

In 1968 the Diagnostic and statistical manual of diseases -second edition- ***(DSM-II)*** introduced the term "hyperkinetic reaction of childhood" to describe the disorder which is characterized by overactivity, restlessness, distractibility, and short attention span, especially in young children. Although hyperkinetic reaction of childhood suggests a predominately hyperactive clinical picture, the DSM-II authors recognized that those affected often had attentional problems also, the DSM-II description maintained that the condition usually diminished by adolescence ***(Barkley, 1998).***

In 1980, the ***DSM-III*** introduced the new terminology, attention-deficit disorder with or without hyperactivity (ADD (H)). The DSM-III differed from DSM-II in that it specified criteria for age of onset to be younger than 7 and the duration of symptoms to be at least 6 months. The DSM-III listed six symptoms of impulsivity,

and five symptoms of inattention and hyperactivity. Schizophrenia, affective disorders, and mental retardation were considered exclusionary comorbidities ***(Doyle, 2004).***

The DSM-III, Revised Edition (***DSM-III-R***) attempted to provide a more empirically and statistically based set of criteria that could distinguish ADHD, not simply from the general population norm, but from other psychiatric disorders, it also introduced the categories of hyperactive, inattentive, or impulsive types, Instead of the subtyping based on the presence or absence of hyperactivity as in DSM-III ***(Doyle, 2004).***

The ***DSM IV*** kept the overall term ADHD, subtypes: inattentive, hyperactive, or combined. The DSM-IV specified that some symptoms were to have caused impairment before age 7; whereas, DSM-III-R only required their presence before age 7. Moreover, DSM-IV required that the symptoms must be present in two or more settings and cause significant impairment in two or more areas of functioning. In addition to pervasive developmental disorders (PDD), schizophrenia or other psychotic disorders were exclusionary. Other psychiatric disorders were not to account for symptoms of ADHD. The DSM-IV applied the description, in partial remission, for those individuals who had symptoms that no longer met full criteria. ADHD not otherwise specified (ADHD NOS) was reserved for patients who exhibited prominent symptoms of inattention or hyperactivity–impulsivity, but who did not meet all the criteria for ADHD ***(Zwi& York, 2004).***

In DSM IV-Text Revised edition (***DSM-VI-TR***), ADHD NOS included individuals not meeting criteria and

having a behavioral pattern marked by sluggishness, daydreaming, and hypoactivity. Another variation of ADHD NOS included individuals who met all criteria for ADHD; however, the age of onset was after the age of 7 ***(Zwi& York, 2004).***

Chapter 2

Chapter 2

Validity of the Diagnosis

2.1 Validity of the disorder in childhood

2.2 Validity of the diagnostic systems in childhood

2.3 Prevalence of ADHD in childhood

2.4 The Landmark Cohort Studies from childhood to adulthood

2.5 Rate of persistence of ADHD in adulthood across studies

2.6 Predictors of outcome of childhood ADHD

2.7 childhood onset of ADHD VS adulthood onset

2.8 Validity of the disorder in adulthood