Comorbidity of Adult Attention Deficit Hyperactivity Disorder in a sample of Egyptian Females with Substance Abuse

Thesis

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By

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List of Abbreviations

Abb.	Full term
ADHD	*Attention Deficit Hyperactivity Disorder*
APA	*American Psychiatric Association*
ASI	*Addiction Severity Index*
CAARS	*Conner's Adult ADHD Rating Scale*
CBT	*Cognitive Behavioral Therapy*
CD	*Conduct Disorder*
CICAD	*Inter-American Drug Abuse Control Commission*
CRA	*Community Reinforcement Approach*
DA	*Dopamine*
DAT	*Dopamine Transporter*
DBT	*Dialectical Behavioral Therapy*
DIVA	*Diagnostic Interview of Adult ADHD*
DMN	*Default Mood Network*
DSM	*Diagnostic Statistical Manual*
EF	*Executive Function*
FBT	*Family Behavioral Therapy*
HPA	*Hypothalamic Pituitary Axis*
MET	*Motivational Enhancement Therapy*
NDRI	*Norepinephrine Dopamine Reuptake Inhibitor*
NE	*Norepinephrine*
NET	*Norepinephrine Transporter*
NICE	*National Institute for Health and Care Excellence*
NIDA	*National Institute of Drug Abuse*
NRI	*Norepinephrine Reuptake Inhibitor*
ODD	*Oppositional Defiant Disorder*
OFC	*Orbito Frontal Cortex*
SAMHSA	*Substance Abuse and Mental Health Services Administration*
SCID	*Structured Clinical Interview for DSM*
SUD	*Substance Use Disorder*

INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder that causes functional impairment in many different life domains. The core symptoms of ADHD are age-inappropriate problems with inattention and hyperactive/impulsive behavior, in combination or separately. ADHD typically first appears in early childhood and by early adolescence ***(Kooij et al., 2010).***

About 60 to 85 percent of those diagnosed as children continue to meet criteria for the disorder in adolescence, and up to 60 percent continue to be symptomatic into adulthood ***(Sadock et al., 2015).***

Whereas the core symptoms of hyperactivity, impulsivity and inattention, are well characterized in children, these symptoms may appear in a different way in adult life. For instance, where children with ADHD may run and climb excessively, or have difficulty in playing or engaging quietly in leisure activities, adults with ADHD are more likely to experience inner restlessness, inability to relax, or over talkativeness. Hyperactivity may be expressed as excessive fidgeting and the inability to sit for long in situations when sitting is expected. Impulsivity may be expressed as impatience, acting without thinking, spending impulsively and starting new jobs and relationships on impulse. Inattention often presents as distractibility, disorganization, being late, being bored, need for

variation, difficulty making decisions, lack of overview, and sensitivity to stress. In addition, many adults with ADHD experience lifetime mood swings with frequent highs and lows, and short-fuse temper outburst ***(Skirrow et al., 2009).***

In childhood ADHD is more prevalent in boys than girls with around one in five ratio in most studies. However, the differences in prevalence and diagnostic rates according to gender become far less skewed with age, as more females are identified and become diagnosed in adulthood ***(Kessler et al., 2006).***

It is also possible that females who suffer from ADHD are not being referred for a diagnosis because they are more likely to have the inattentive type ***(Stellar & Faraone, 2006).***

A significant proportion of patients with the disorder presents with one or more comorbid conditions. Substance Use Disorder (SUD) remains among the most problematic co-occurring disorders with ADHD ***(Wilens et al., 2011).***

Mismanagement of ADHD in Childhood may contribute to continuing of the symptoms and the risk of SUD in adulthood. Treatment of ADHD symptoms with stimulant medication may reduce the risk of developing SUD. Pharmacotherapy is associated with an 85% reduction in risk of SUD in youth with ADHD. Timing of treatment matters: children with ADHD who are treated with stimulant medication at a younger age are less likely to use substances than those who have delayed onset of

treatment. Behavioral therapy may also confer some protection against SUD ***(Elizabeth et al., 2014).***

As regards the pattern of use in Egypt, 13.3% used substance once in their lives, 6.0% were experimental users, and 6.7% are regular on substance use, while, 6.4% were fulfilling the criteria of dependence. There was a highly significant difference between both genders as regards the use of substance, 15.8% of the sample were male substance users while 2.2% were female substance users ***(Hamdi et al., 2016).***

The risk of SUD has been shown to be twice as high among people with ADHD ***(Wilens et al., 2011).***

In a recent meta-analysis by ***Van Emmerik-van et al. (2013)***, reporting on 12 studies in adult treatment seeking substance abuse patients, the pooled ADHD prevalence rate was 23.3%, ranging from 10.0 to 54.1% in individual studies. Conversely, the prevalence of SUD among ADHD patients is estimated to be approximately 50% thus ADHD has been reported to be a strong predictor of SUD ***(Wilens et al., 2011).***

Finally, it should be noticed that when SUD occurs with ADHD, it is associated with a greater severity of substance abuse compared to other substance abuse patients. This has also been shown in its earlier age at onset ***(Arias et al., 2008).***

RATIONAL OF THE STUDY

Substance use disorder is associated with Adult ADHD. Adult ADHD increases the severity of SUD and few research papers were on female patients, we need to study the co-occurrence of Adult ADHD in Adult females with SUD.

AIM OF THE WORK

1- Find the rate of occurrence of Adult Attention Deficit Hyperactivity Disorder in a sample of females with Substance Use Disorder.

2- Find the socio demographic and clinical data characterizing Adult Attention Deficit Hyperactivity Disorder with Substance Use Disorder.

3- Assess the severity of Substance Use Disorder and Attention Deficit Hyperactivity Disorder in a sample of adult female when they are comorbid.

4- Identify specific substance use in female patients with Adult Attention Deficit Hyperactivity Disorder.

Chapter 1

EPIDEMIOLOGY OF ADULT ATTENTION DEFICIT HYPERACTIVITY DISORDER IN SUBSTANCE USE DISORDER

Attention Deficit Hyperactivity Disorder (ADHD) is a major risk factor for the development of substance use disorder (SUD) ***(Charach et al., 2011).***

Patients with ADHD develop SUD at a younger age, use more than one type of substances. Those patients need hospitalization more often than patients with SUD without ADHD. Comorbid ADHD has a negative effect on the course of SUD ***(Arias et al., 2008).***

ADHD is a neurodevelopmental disorder appears in childhood and frequently persists into adulthood in 60 percent of cases ***(Sadock et al., 2015).***

The prevalence of adult ADHD in the general adult population was found to be between 2.5% and 4.4% in some studies. Adult ADHD is estimated as 14.3% in outpatient clinic population. Also its prevalence is estimated as 9.8% in Private psychotherapy centers population ***(Sercan et al., 2017).***

Adult ADHD is associated with high functional impairment and a high comorbidity rate with many other psychiatric disorders. Undiagnosed ADHD in adulthood has serious consequences. So, a proper diagnosis is important. In adulthood, the diagnosis of ADHD is complicated due to overlapping symptoms with many comorbid disorders ***(Mörstedt et al., 2015).***

In contrast to some epidemiological studies which confirm the necessity of presence of childhood onset of adult ADHD others support the existence of adult-onset ADHD. These studies suggest the presence of a distinct biological cause and a developmental course from that of child-onset ADHD ***(Agnew-Blais et al., 2016).***

ADHD is characterized by three core symptoms inattention, hyperactivity, and impulsivity. These symptoms are associated with deficits in soft skills (e.g. in social communication), lead to severe functional impairment in daily life. People with ADHD report long-term problems in education, at the work place, in family and social life, with leisure activities, and with organization ***(Corbisiero et al., 2013).***

Additional symptoms in adults with ADHD include deficits in self-regulation, educational and occupational difficulties, psychological maladjustments and other adaptive impairments such as money management unhealthy lifestyles, risky sexual activity, and impaired stress tolerance ***(Barkley et al., 2015).***