

Assessment of Adult Attention-Deficit/Hyperactivity Disorder (ADHD) in Substance Use Disorder Patients

Mostafa Mahmoud Elsabban*, Mohammed Gamal Abd Al Ghany, Mohammed Metwally Abo Alabass

Department of Psychiatry, Al-Azhar University, Faculty of Medicine, New Damietta, Egypt.

*Corresponding Author: Mostafa Mahmoud Elsabban, Phone: +20 102 888 6416, E-mail: drsapan2010@gmail.com,

Affiliation: Assistant lecture of Psychiatry, Al-Azhar University, Faculty of Medicine, New Damietta., Egypt.

ABSTRACT

Background: One of the public health concerns is connection between diagnosed attention-deficit/hyperactivity disorder (ADHD) and substance use disorders (SUD). According to several studies, having ADHD predisposes one to using both legal and illegal substances, especially those associated with SUD.

Aim: This study was set out to determine how common adult ADHD was between people with substance use disorders. A comparison of the onset, severity, and the substance of usage in patients with adult ADHD and those without might also be intriguing.

Patients and Method: This was a cross-sectional comparative study that included 200 inpatients with SUD picked randomly from the Addiction Treatment Center at Port Said Psychiatric Hospital, over 6 months from December 2021 to May 2022.

Results: We found 57 (28.5%) of the participants have ADHD, while according to the Wender Utah Rating Scale (WURS) 119 (59.5%) had ADHD in their childhood. In ADHD participants' alcohol, tramadol, opioids, and stimulants were significantly higher than non-ADHD participants. Addiction Severity Index (ASI) analysis was statistically significant severity in all aspects of addiction severity index in patients with ADHD except psychiatric section.

Conclusion: The adult ADHD strongly influences the development of SUD. Adult ADHD patients had higher rates of relapse, as evidenced by more frequent hospitalizations for substance abuse problems, earlier onset of substance use, and shorter abstinence intervals. Therefore, effective care for SUD should be included in screening for ADHD symptoms and including them in treatment regimens.

Keywords: ADHD; Dependence; Substance abuse

INTRODUCTION

During childhood one of the most frequent neuropsychiatric conditions is attention-deficit/hyperactivity disorder (ADHD), which frequently persists into adulthood (estimated frequent: 5.2%–6.1% in male and 3.3% in female) ⁽¹⁾.

According to recent studies, 4.0% of adults in the US have ADHD. Over the course of an individual's whole lifespan, ADHD had a major impact on mental wellness and performance throughout various life areas ^(2,3).

The link between ADHD and substance use disorders (SUD) is one of the public health issues. According to certain studies, having ADHD predicts drug use, both legal and illegal, and is particularly linked to SUD ^(4,5).

This is a concern since people with ADHD already have considerable disadvantages in a number of life domains. Further impairments in these domains can also be brought on by ongoing substance misuse and related disorders. The shift from youth to adulthood is crucial for all young adults since it brings about significant changes in many areas of life, such as beginning a work. Additionally, throughout this years, substance usage and related issues frequently rise. People with ADHD may have more trouble adjusting to new circumstances and overcoming the various problems this

stage of life brings because of their symptoms. In these conditions, people may be more susceptible to using both legal and illegal drugs as well as acquiring SUD ^(4,6).

In order to avoid bad outcomes and reduce the impact of ADHD in life later, it may be essential to gain a greater understanding of the link between adult ADHD, drug abuse, and associated issues. There is already a significant number of studies looking into this connection. however, connection between ADHD and substance abuse still questionable ^(6,7).

Additionally, earlier research mainly concentrated on the connection between ADHD and SUD⁽⁸⁾. Few studies have looked at how ADHD affects more general substance use patterns that may be a contributor to SUD, such as the first use's age, its prevalence over time, and dangerous substance usage. It may be possible to stop the emergence of dysfunction related to substance misuse in people with diagnosed ADHD by identifying target usage patterns⁽⁹⁾.

AIM OF THE STUDY

Calculating the frequency of adult ADHD in patients with drug abuse problems is the goal of our investigation. A comparison of the onset, severity, and the substance of usage in patients diagnosed with adult ADHD and those without might also be intriguing.

PATIENTS AND METHODS

This was a cross-sectional comparative study that includes 200 individuals with SUD randomly picked from Center of Addiction Treatment at Port Said Psychiatric Hospital, over 6 months from December 2021 to May 2022.

Exclusion criteria:

- 1- Presence of any psychiatric disorder other than ADHD.
- 2- Patients going through the detoxification process.

Study Tools:

The following processes were applied to all recruited participants:

- a) A semi-structured interview form to gather information on sociodemographics, past substance use, and medical and mental health history.
- b) A psychological assessment based on DSM-5⁽¹⁰⁾ diagnostic criteria.
- c) The Arabic-translated and validated version of the Wender Utah Rating Scale⁽¹¹⁾ (WURS), which evaluates adult symptoms and behaviours related to childhood ADHD in the past.
- d) The Arabic-translated and validated version of the adult ADHD Self-Report Scale (ASRS-v1.1)⁽¹²⁾.
- e) Addiction Severity Index (ASI) 6⁽¹³⁾.

Ethical Approval:

Al-Azhar University's Damietta Faculty of Medicine's Ethical Committee gave its approval to this study and oral and written consent was taken from individuals taking into considerations maintaining the confidentiality of the data. This work has been carried out in accordance with The Code of Ethics of the World Medical Association⁽¹⁴⁾ (Declaration of Helsinki) for studies involving humans.

Statistical Analysis

Collected data were coded to google sheet form and we used SPSS version 23.0 to analysis collected data. Results were presented as mean, SD, and number for normally distributed continuous data and % for regularly distributed categorical data. Two independent groups' normally distributed data were analyzed using the student "t" test. And for qualitative data, the Chi square test. A P value of 0.05 was deemed significant in this investigation.

RESULTS

We demonstrate demographic properties of study participants in table (1). In our study most participants had no family history of ADHD of addiction 147(73.5%) and 116(59.8%) respectively. And we found 57 (28.5%) of the participants have ADHD, while according to WURS 119 (59.5%) had ADHD in their childhood.

In comparison of substance abuse data according to presence of ADHD we found all data were statistically higher in ADHD group table (2).

Table (3) indicate that the ADHD participants alcohol, tramadol, opioids, and stimulants were significantly higher than non-ADHD participants (p=0.01, 0.009, 0.01, 0.02) respectively.

According to ASI analysis we found statistically significant severity in all aspect of addiction severity index in patients with ADHD except psychiatric section (p=0.84).

Table (1) Demographic Properties.

		Total	Non-ADHD	ADHD	P value
Age (years)		27.06± 6.5	27.07± 6.6	27.04± 6.2	0.9
		N (%)	N (%)	N (%)	
Sex	Male	182 (91)	131 (72)	5 1(28)	0.5
	Female	18 (9)	12 (66.7)	6 (33.3)	
Residency	Rural	91 (45.5)	63 (69.2)	28 (30.8)	0.5
	Urban	109 (54.5)	80 (73.4)	29 (26.6)	
Marital status	Single	155 (77.5)	118 (76.1)	37 (23.9)	0.01*
	Married	43 (21.5)	23 (53.5)	20 (46.5)	
	Divorced	2(1)	2(100)	0	

*Significant

Table (2) Clinical Properties.

	ADHD		Non-ADHD		P value
	mean	SD	Mean	SD	
Substance-abuse onset	18.3	2.4	20.3	3.8	0.01*
Treatment trials	3.8	1.8	2.1	1.5	0.01*
Longest period of abstinence	2.3	1.9	5.9	2.9	0.01*
Number of Hospital admission	3.5	1.4	1.9	0.9	0.01*
Numbers of substances	3.5	1.4	2.1	0.9	0.01*

*Significant

Table (3) Substance Use frequency.

	Total	NON-ADHD		ADHD		P value
	N (%)	N	%	N	%	
Alcohol	35 (17.5)	8	5.6	27	47.4	0.01*
Cannabis	171 (85.5)	118	82.5	53	93.0	0.054
Synthetic cannabis	24 (12)	20	14.0	4	7.0	0.171
Tramadol	80 (40)	49	34.3	31	54.4	0.009*
Benzo	6(3)	4	2.8	2	3.5	0.7
Opioids	101 (50.5)	61	42.7	40	70.2	0.01*
stimulants	53 (26.5)	29	20.3	24	42.1	0.02*
Others	26 (13)	10	7.0	16	28.1	0.01*

*Significant

Table (4) Addiction Severity Index parameter.

	ADHD	Non-ADHD	P-Value
	Mean±SD	Mean±SD	
Medical section	0.39± 0.49	0.12± 0.42	0.01*
Employment support	0.88± 0.3	0.48± 0.5	0.01*
Drug & Alcohol section	1± 0	0.69± 0.46	0.01*
Legal section	0.37± 0.48	0.04± 0.2	0.01*
Family section	0.93± 0.25	0.51± 0.5	0.01*
Social section	0.82± 0.38	0.27± 0.4	0.01*
Psychiatric Section	0.77± 0.4	0.71± 0.45	0.84

*Significant

DISCUSSION

Our study's goal was to describe the characteristics and severity of addiction disease as they relate to a diagnosis of ADHD. Our findings revealed that patients with both addiction and ADHD diagnoses showed more severe addiction and psychopathology than patients with only addiction diagnoses, which is consistent with research on this topic ⁽¹⁵⁾.

Our results revealed that 28.5% according to the adult diagnosed with ADHD, which is comparable to the earlier research in SUD patients receiving treatment ⁽¹⁶⁾.

In Ibrahim *et al.* ⁽¹²⁾ study on Egyptian sample of adult inpatients with substance misuse the frequency according to ASRS-v1.1 and DSM-IV-TR, adult ADHD was 43.1 and 35.3 respectively.

In agreement with the finding of the our study, Tims *et al.* ⁽¹⁷⁾ report in 600 patients treated to outpatient

drug misuse treatment programmes for cannabis issues had a prevalence rate of 38% ADHD.

Unlike our finding Fatséas *et al.* ⁽¹⁵⁾ reported in their study the prevalence of SUD inpatients met adult ADHD diagnosis were 12%.

The evidence suggests that there may be some gender variations in the connection between ADHD and addiction. Prior research indicated that men were more frequent than women to have adult ADHD diagnoses ⁽¹⁸⁾ and that drug use is more prevalent among males with ADHD than women ⁽¹⁹⁾. These trials did not, however, focus on patients who were seeking help for addiction problems.

In present study most of participants were male 182(91%). And the majority were single 155(77.5%). 51(89.5%) and (65%) had ADHD respectively.

The common biological etiology could explain the comorbidity between both ADHD and SUD ⁽²⁰⁾.

According to a few hypotheses, SUD risk in ADHD may be increased by an imbalance between the networks responsible for motivation and reward ⁽²¹⁾.

In present study we found 57 (28.5%) of the participants have ADHD, while according to WURS 119 (59.5%) had ADHD in their childhood. The current findings draw attention to the possibility that adults with ADHD may be more likely than children to have poly-dependence.

Cannabis dependency was shown to be more frequently associated with ADHD diagnosis ⁽¹⁵⁾.

Regarding the clinical character of SUD in this study, ADHD inpatients had a younger onset of SUD began, higher substance usage, a longer hospital stay, and shorter periods of abstinence. We found the mean onset of substance abuse were 19.7 years. While longest period of abstinence were 4.9 months.

Fatséas *et al.* ⁽¹⁵⁾ in their study that an earlier beginning of addiction was linked to an ADHD diagnosis.

According to the studies, adolescents and adults with ADHD frequently struggle with substance abuse in more serious ways than those without the disorder. Both diagnoses are associated with earlier onset, longer duration, and more severity, as well as more relapses and difficulty maintaining sobriety, according to reports ^(22,23).

In agreement with our findings, Kim *et al.* ⁽²²⁾ observed that, compared to alcoholics without ADHD, alcoholics with ADHD had an earlier mean age at which problematic drinking began. Similarly, Ohlmeier *et al.* ⁽²³⁾ reported that patients diagnosed with ADHD had an earlier onset of alcohol addiction; however, this finding was not statistically significant.

Patients with ADHD begin using harmful drugs at a much younger age ^(24,25). And patients with ADHD have a higher rate of comorbid SUD ⁽²⁶⁾, and show an increased relapse rate ⁽²⁷⁾.

Smoking and tobacco use disorders are more likely to develop in children and adolescents with ADHD⁽²⁴⁾, and adults with ADHD are at significantly greater risk for other SUDs when they smoke⁽²⁸⁾.

Regarding the incidence of adult ADHD and its clinical characteristics, cannabis and/or opioid users had higher rates of ADHD than individuals who sought treatment for other SUDs.

In ADHD participants' alcohol, tramadol, opioids, and stimulants were significantly higher than non-ADHD participants.

Our outcome is consistent with previous research that found a similarly proportion of ADHD in cannabis and cocaine SUD, however this study found a slightly higher rate^(16,29).

In the cannabis group, both the onset of any SUD and the use of any drugs was sooner. Numerous researches have shown that cannabis use is rising among younger users of drugs, possibly as a result of this drug's perceived low danger⁽³⁰⁾.

Early SUD onset raises the probability of chronicity, and ADHD adds to the list of factors that worsen the effects on mental health^(31,32).

Unlike earlier research, which frequently only focused on the symptoms of ADHD, the degree of addiction and diagnoses were evaluated in this study using internationally recognised instruments^(20,33).

According to ASI analysis we found statistically significant severity in all aspect of addiction severity index in patients with ADHD except psychiatric section.

In a study of Moura *et al.*⁽³³⁾ they found that the patients with combination of substance addiction and ADHD performed worse on the ASI's employment, legal, and family parts, raising the idea that ADHD symptoms itself could exacerbate the severity profiles and harmful impacts of substance use in these specific life sections.

Although adult ADHD symptoms may increase the severity of addiction, the related psychopathology may also account for impairment in a variety of everyday life areas. ADHD patients with addiction are more likely to have personality disorders and concomitant mental conditions from the Axis I of the DSM-IV⁽¹⁶⁾.

Conflict of interest: nil

Founding Resources: nil

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