Attention Deficit/Hyperactivity Disorder (ADHD) in a Group of Patients with Addictive Problems: Exploratory Study in France

Lucia Romo1,2*, Laurence Kern1, Stéphanie Mille1 and Caroline Dubertret1

1Laboratoire Evaclipsy, UFR SPSE, Paris Ouest Nanterre la Défense University, 200, Avenue de la République Nanterre 92001 Cedex, France
2CHU Louis Mourier, Psychiatric Unit Colombes (France), 178, Rue des Renouillères, 92701 Colombes Cedex, France

Abstract

High rates of childhood ADHD has been found among substance users, revealing an important role of ADHD in addictive disorders. Compared to non-hyperactive, people with ADHD reported higher rates of co-accuracy with substance use. ADHD appears to be a risk factor for developing a consumption of one of these substances and complicates even access to the abstinence. The present study examines the prevalence of ADHD in adult patients with addictive problems (alcoholism, tobacco consumption, pathological gambling and compulsive buying). The authors compared 117 patients with and without ADHD, according to evaluations made with the Wender Utah Rating Scale (WURS) and the Adult Deficit Disorders Scale [1].

Various differences were observed between the group with ADHD and that without ADHD. The percentage of adults with positive scores in scales of ADHD in the sample group was 35%, compared to average 3.4% [2] in the general population. Different trends were observed, in accord to literature, the age at beginning of addictive behaviours are more earlier in ADHD group, and the cigarette consumption are as well elevated in ADHD group.

Beside the use of psychoactive substances (cocaine, heroin and cannabis) are more elevated, as well as cognitive and motor impulsivity (Barratt Impulsivity Scale BIS-10) in the ADHD group. These data show the value of early detection of ADHD in order to prevent complications during adolescence and adulthood.

Keywords: Attention Deficit/Hyperactivity Disorders (ADHD); Addictive behaviour; Alcohol; Impulsivity

Introduction

Attention deficit/hyperactivity disorder (ADHD) is a childhood-onset neuropsychiatric behavioural disorder associated with a wide range of functional impairments [3]. ADHD has been shown to be a risk factor for alcohol and tobacco use in clinical and high-risk adults who both smoke and drink are affected by ADHD. The clinical diagnosis of ADHD in adults requires at least two out of six possible symptoms, of either inattention or hyperactivity-impulsivity, to be observed during the six months preceding the diagnostic interview (DSM-IV TR criterion A). There need to be symptoms before the age of 7 (criterion B), some impairments in at least two aspects of daily life (family, work, friends…) during the previous six months (criterion C), and a clinically significant impairment in at least one of these areas (criterion D). Faraone et al. [4] showed that the DSM-IV “age at onset” criterion is too stringent.

The prevalence of ADHD in psychiatric, non-psychotic adult outpatients was 16.8% (8.5% for males and 21.6% for females), as opposed to 5.37% in non-clinical participants [5]. Disorders like anxiety disorders, major depression and substance abuse are often associated with ADHD [6].

In 2007, Faraone et al. found no evidence supporting the possibility of stimulant treatment affecting the risk of subsequent substance use disorders, in children and adolescents with ADHD when they reached early adulthood.

Evidence supporting the role of ADHD like a risk factor of addictive disorders has been provided by studies reporting high rates of childhood ADHD among people seeking treatment for the use of opiates, cocaine, and other addictive substances. The subjects with ADHD reported higher rates of cocaine use, alcoholism, and treatment recurrence than those who were not affected by ADHD [7]. King et al. [8] have examined the prospective relationship between childhood externalizing and internalizing disorders, and substance abuse in early adolescence, by comparing the symptoms of externalizing ADHD, CD (conduct disorders) and ODD (oppositional deficit disorders) in children with an average age of 11 years. Of the three externalizing disorders, ADHD demonstrated the weakest prospective relationship with substance abuse, and was found to be somewhat more strongly associated with a propensity for heavy drinking in males than in females. These authors found CD to be strongly associated with the use of cannabis, and observed a strong association between externalizing disorders and advanced cannabis use and nicotine dependence in 17 year-old girls. In a control case reported by Biederman et al. [9], a 10-year prospective study of ADHD concluded that ADHD youths have a high risk of being affected by a wide range of adverse psychiatric outcomes, including a markedly elevated rate of antisocial behaviour, addictive disorders, and mood or anxiety disorders.

There are few long term follow studies of seriously affected inpatient children with ADHD or comorbid emotional and conduct disorder about the depression [10].

Thirty-five percent of adult ADHD patients are known to be...
addicted to alcohol, and many ADHD patients also have a high nicotine consumption, which typically leads to an improvement in attention, and the individual’s ability to concentrate and control impulsiveness [11].

**Method**

**Participants**

*Study protocol:* 117 participants, who addictive disorders below the DSM criteria, 51.3% are males and 48.7% females, with a mean age of 43 years.

The patients considered to probably suffer from ADHD presented two criteria: a Wender Utah Rating Scale (WURS) score of more than 46, and a Brown ADD scale of 55 – 120, ADD probably.

34% of this group was affected by comorbid ADHD disorders. The participants were outpatients and inpatients from the psychiatric unit of the Louis Mourier University Hospital in Colombes (France), who had answered a newspaper advertisement and met the requirements described below. A clinical psychologist carried out all physical measurements and interviewed all of the patients. Recruitment took place in a psychiatric ward but in the consultations and hospitalization of addiction, all patients consulted for addictive problems.

**Instruments:** The Wender Utah Rating Scale (WURS) [12] for adults, to describe their own childhood behaviour in 25 items; the Barratt’s Impulsiveness scale (BIS-10), completed by the patients, to measure dimensions: motor impulsivity, cognitive impulsivity and difficulties with planning; the Brown Attention Deficit Disorders Scale (ADD) [1], with 40 items in five dimensions: organization, attention, energy-affective problems, problems with memory at work; a check list used to identify addictive problems: consumption of ecstasy, heroin and cocaine, pathological gambling, and pathological buying; the Montgomery and Asberg Depression Rating Scale [13], used to evaluate depression intensity, after a semi-structured interview with the patient and we evaluated personality disorders according to the DSM-IV criteria.

The study protocol was approved by the institutional review board, according to the code of Ethics of the World Medical Association (Declaration of Helsinki).

**Data analysis**

Statistical analysis was carried out using the Windows version of SPSS 19, and by separating the recorded data into two different groups: one concerning patients affected by, and the other concerning patients unaffected by, ADHD criteria.

**Results**

Table 1 summarizes the results as a function of age, sex and history of substance abuse.

Among the 117 patients, at least 46 had a significant WURS score and more than 59 had a significant Brown’s ADD score; 35% of the addicted patients were affected by ADHD (during infancy and at the time of the study). In the ADHD group, 60% of the patients were male, whereas in the group without ADHD only 40% of the patients were male. The age at which addiction commenced, the number of cigarettes consumed per day and the number if cigarettes before the breakfast are significantly higher in the ADHD group (p < 0.05 from the T level of the Student test, after Bonferroni correction) than in the non-ADHD group. We also note a significant difference between both groups as regards the consumption of cannabis (p = 0.012). There is also a tendency to be bulimia for the patients who answer positively in (p = 0.082). The suicide attempts are higher in ADHD group but none statistically significant.

As shown in Table 2, Motor impulsiveness, difficulties with planning and impulsiveness were higher in this group with ADHD than in the group without ADHD. Factors related to depression and anxiety, together with suicide attempts, were found to be slightly (but not significantly) more prevalent in the ADHD group, in which the patients were found to be more depressive than anxious.

We observed correlation between ADHD and cigarettes (r = 0.022, p = 0.03); cigarette before breakfast (r = -0.24, p = 0.012), cannabis (r = -0.234, p = 0.02), and motor impulsivity (r = 0.22, p = 0.001).

**Discussion**

This is the first report to have examined the prevalence of ADHD...
in adult patients suffering from addiction in France. In such groups, high ADHD occurrences were observed, reaching a frequency of almost 35% in the case of the WURS and Brown’s ADD instruments.

It is probably that we have overestimated the likely presence of ADHD as a maintenance-free number of false positives as questionnaires very elevated, Pedrero-Perez et al. [14] had found 6.89% of prevalence in substance addiction.

We did not find statistically significant differences between groups with and without ADHD for the presence of: pathological gambling, compulsive shopping, heroin, cocaine, alcohol dependence, etc.

Identifying ADHD among adults with substance abuse disorders is commonly complicated with a differential diagnosis that includes the effects of ongoing substance use, detoxification and withdrawal; all patients in this study are detoxified.

Relationships have been found between ADHD and the choice of drug, and between impulsivity and tendencies towards anxiety, depression, and self-esteem. The ADHD is probably to be a risk factor for the development of addictive behaviour, and there are necessarily multiple interventions (for ADHD and for addiction) [15]. Patients with ADHD are seldom followed in psychotherapy, 70% in the group with ADHD versus 80% in the group without ADHD. The impulsiveness is an important factor, when considering the compliance of a specific treatment for an adapted psychological program [16,17].

On tobacco consumption, the ADHD group presents a higher consumption of tobacco’s currently the group without ADHD. These results are similar to those of Kollins et al. [18], Frei et al. [19], with more smokers in the ADHD group vs. general population (55% vs. 31%).

Those who smoked in the past, and who have managed to quit are more numerous in the group without ADHD. Antisocial personality was found in 25% of the ADHD group, as opposed to only 6.8% of individuals in the group without ADHD. Although this result is less significant than that reported by Kessler et al. [6], it could explain the higher levels of alcohol consumption observed in the group with ADHD, and some types of antisocial personality such as that observed with adolescents [20].

The limitations of the present investigation include: especially the absence of a control group, addictive variability according to substance (basically alcohol and behavioural addictions), the lack of diagnoses and the mono-informant reporting and the relatively small number of participants. In future studies, the DSM-IV-TR criteria should be reconsidered for adults, or be complemented with other persons and the interviews.

Conclusion

Because ADHD is a condition that can be treated, our findings are potentially significant from the perspective of the support of co-occurring diagnoses. It should be pointed out that in France; such medical treatment is available for children and adolescents only. The prospective findings provide further evidence of high rates of morbidity, during the course of their adult life, in patients affected by ADHD. This underlines the importance of early recognition of this disorder, in order to develop strategies for its prevention and treatment and adapted psychotherapeutic treatment, in particular CBT.

Acknowledgments

The authors wish to thank the IREB – Institute of Scientific Studies and Research on Alcohol- for its support.

References


