Estimating the prevalence of adult ADHD in the psychiatric clinic: a cross-sectional study using the adult ADHD self-report scale (ASRS)

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Ir J Psych Med 2010; 27(4): 195-197

Abstract

Objectives: We sought to determine the point prevalence of adult attention deficit/hyperactivity disorder (ADHD) in an out-patient psychiatric population.

Methods: Patients (n=243) attending five different out-patient clinics in a largely urban adult psychiatric service completed the Adult ADHD Self-Report Scale, a recently developed instrument by the World Health Organisation. Clinical and demographic data were recorded.

Results: There was a high apparent rate of adult ADHD detected (23.9%). Such patients were significantly more likely to have lower educational attainment, ADHD as children, a forensic history and the diagnosis of personality disorder as well as a higher rate of benzodiazepine use. They were no more likely to be dissatisfied with the service, nor to be heavier users of the service.

Conclusions: We report a high apparent rate of adult ADHD. Correlates of this high rate indicate individuals with less positive lifestyles than other patients. Screening for this disorder appears warranted, particularly in the light of the emergence of new non-amphetamine-based therapies.

Key words: Adult Attention Deficit Disorder; Epidemiology; Screening; Prevalence; Adult Self-Report Scale Screener.

Introduction

Attention deficit/hyperactivity disorder (ADHD) is a very well defined and researched disorder in children, reflecting its high prevalence and morbidity.[1] Once felt to be "outgrown" in adolescence and "non-existent" by adulthood[2], there is now clear evidence that ADHD symptoms can persist into adulthood (see Davidson[3] for review).

Considerable confusion remains in the literature regarding the prevalence of ADHD in adults. A small number of prospective studies followed children, operationally defined as ADHD, into adulthood and reported persistence rates from as high as 60%[4] to just over 1%.[5] This discrepancy can be accounted for by differences in baseline diagnostic criteria and follow-up diagnostic methods. As regards point prevalence rates in the normal adult population, Kessler *et al*[6] screened over 3,000 18-44 year olds and reported a prevalence rate of 4.4%. This remains the largest community study.

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SUBMITTED: AUGUST 28, 2008. ACCEPTED: MARCH 3, 2009.

There is only one study we are aware of in the literature that has examined prevalence rates in a referred (ie. attending a psychiatric service) population. Montes *et al*[7] administered the Mini International Neuropsychiatric Interview (MINI-Plus) to 161 consecutive adult psychiatric out-patient attenders. Prevalence rates of 16.8% were reported.

What follows is a description of a study carried out for the purpose of estimating the prevalence of adult ADHD in a psychiatric population using a recently developed and simple screening tool. Additionally we explore basic clinical/demographic correlates of screened patients.

Methods

Patients (aged 18-65) were recruited from six non-specialist general adult psychiatric clinics from a public service hospital in North Dublin (St. Ita's Hospital). Ethical approval was obtained. Consecutive patients were approached in the waiting area and consenting patients completed the self-report instrument and questionnaire at that time.

The adult ADHD screening tool used was the six-item Adult Self-Report Scale-VI.I (ASRS-VI.I) Screener.[8] This tool was developed by the World Health Organisation and was the amended and psychometrically improved version of the 18-item original screener (κ of 0.76 for the six-item and 0.58 for the 18-item scale, respectively). The ASRS is freely available on the internet (http://www.hcp.med.harvard.edu/ncs/ftpdir/adhd/6Question-ADHD-ASRS-v1-1.pdf). The six-questions focus on attentional / overactive themes (eg. "How often do you have difficulty wrapping up the final details of a project, once the challenging parts have been done?"). Answers on a five-point scale (Never = 0, ranging to Very Often = 5) are scored. A score of four or more "sometimes"/"often"/"very often" options out of the total of six questions defines adult ADHD cases. To define the population clinically and demographically, information was obtained from patients' charts as well as by brief questionnaire (the last six items in Table 1, below). Data were analysed using Statistical Package for the Social Sciences, version 14.1.[9] Categorical variables were analysed using two-tailed chi-squared tests and continuous variables were analyses using two-tailed t-tests.

Results

A total of 243 patients consented and completed questionnaire data out of 265 asked to participate (91.6 % response rate). *Table 1* displays the basic demographic data and the questionnaire data in ASRS Screener cases and non-cases. The mean age of the population was 42.5 years and the gender breakdown was 106 male (43.6%), 137 female (56.4%). 58 (23.9%) patients reached caseness on the ASRS Screener. Male cases outnumbered females by more than 2:1. Similarly, a much lower percentage of sampled

https://doi.org/10.1017/S079096670000152X Published online by Cambridge University Press

Table 1: Descriptive and questionnaire data in ASRS Screener cases and non-cases

	Case (n=58)	Non-case (n=185)
Gender (male/female)	40/18	66/119
Age (years)	42.1	42.7
Duration of clinic attendance (years)	6.3	7.9
In-patient admissions >1	10 (17.5%)	38 (20.9)
Have you been helped by attendance?[1]	37 (64.9%)	115 (63.5%)
Were you diagnosed with hyperactivity as a child?	2 (3.4)	2 (1.1)*
Do you think you had ADD as a child?	43 (58.6)	55 (30.4)**
Were you ever in trouble with the law?	12 (21.1)	19 (10.3)*
Did you finish secondary school?	26(44.8)	115 (62.2)*
Are you a regular user of recreational drugs?	4 (6.9)	4 (2.2)

[1]For questions, the data refer to "yes" answers
Note: Numbers in brackets refer to percentage data for the group in question
** and ** indicates significance levels of $p < 0.05$ and $p < 0.01$ respectively*

women (13.1%) compared to men (37.7%) were cases. Of note, the cases did not differ significantly from non-cases in terms of age, duration of clinic attendance or number of admissions. Both groups felt they were helped in equal measure by clinic attendance. There were non-significant trends towards greater drug use and higher rates of childhood ADHD diagnosis in cases.

Table 2 summarises the clinical data in terms of diagnosis (Axis I and II) and current medication. Of note, cases were significantly more likely to belong to a neurotic spectrum and not to a schizophrenia spectrum category. While cases were three times more likely to be personality disordered, they had the same propensity to be substance abusers. Medication prescribing patterns loosely followed diagnostic category. Significantly more cases were prescribed benzodiazepines.

Discussion

To our knowledge this is the first study using a screening instrument for adult ADHD in a psychiatric population. The apparent prevalence rate we detected (almost one quarter of the sample) suggests considerable under-diagnosis of adult ADHD in practice. While none of the 243 patients sampled had been diagnosed with adult ADHD as a primary or co-morbid diagnosis (from chart review), the study was not designed to ascertain if patients were misdiagnosed with another Axis I or II disorder or if they were suffering co-morbidly.

A significant limitation of the study is the use of an instrument designed for community epidemiological work in a psychiatric population. However, it was very simple to administer and complete and is freely available. Also the lack of a structured diagnostic interview to ascertain the diagnosis of adult ADHD is a further significant (resource-related) limitation. Of note, however, is the prevalence rate of 16.8% in a study of a selected population of psychiatric out-patients.[7] using a structured diagnostic interview (the MINI-Plus). Patients with psychosis, bipolar disorder and substance misuse (as well as any with a priori ADHD) were excluded.

Table 2: Clinical data in ASRS cases and non-cases. Numbers in parentheses are percentages

Diagnostic spectrum	Case	Non-case
Schizophrenia	8 (14.0)	49 (26.9)*
Bipolar	7 (12.3)	24 (13.2)
Affective	28 (49.1)	82 (45.1)
Neurotic[a]	11 (19.3)	21 (11.5)*
Personality Disorder[b]	6 (10.3)	6 (3.2)*
Substance Abuse[c]	6 (10.3)	20 (10.8)
Medication		
Antipsychotics	17 (29.3)	68 (36.8)
Mood Stabilisers	10 (17.2)	33 (17.8)
Antidepresants	40 (69.0)	123 (66.5)
Benzodiazepines[d]	34 (58.6)	76 (41.1)*

[a] Includes anxiety disorders, post-traumatic stress disorder, etc
[b] Includes any Personality disorder as judged by chart review
[c] Current or past abuse of alcohol or other recreational drug
[d] Includes regular or "PRN" hypnotic medication.
** indicates significant difference levels of $p < 0.05$.*

This prevalence rate (in the only comparable study we are aware of) is not very far from our own and would presumably have been even closer had they included all patients, as we did. Nonetheless we feel at the very least that more consideration needs to be given to adult ADHD as a (primary or co-morbid) diagnosis in the clinic. This is particularly so at a time of quite promising treatments that are now available. In respect of pharmacotherapy, positive data on use of the anti-depressants atomoxetine, bupoprion and venlafaxine are emerging as alternatives to amphetamine-based stimulants.[10] Cognitive behaviour therapy has recently been shown to be of benefit,[11] along with a number of other emerging therapies.[3]

As discussed by Rosler *et al*[12] the actual clinical diagnosis of adult ADHD remains a complex procedure and this starts with clinical awareness and vigilance. Almost all patients will have a clear-cut history (though not necessarily a diagnosis) of childhood ADHD with possible attendant conduct disorder in later childhood and adolescence. In adulthood at least 75% will have a co-morbid axis I or II disorder. Having reference to the Diagnostic and Statistical Manual of Mental Disorders –Text Revision (DSM-IV TR)[13] is useful as is consideration of the use of a number of structured diagnostic instruments (detailed in[12]).

Declaration of Interest: None.

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https://doi.org/10.1017/S079096670000152X Published online by Cambridge University Press

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