



Addressing common misconceptions about attention deficit hyperactivity disorder in adults



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Attention deficit hyperactivity disorder (ADHD) is a common childhood-onset neurodevelopmental disorder that frequently persists into adulthood. The disorder in adults is commonly misunderstood, leading to missed or incorrect diagnosis and difficulty in accessing evidence-based treatments. Yet, scientific information on the neurodevelopmental origins of ADHD is rapidly growing and considerable progress is starting to be seen in the development of clinical services for adults. Barriers to progress include the view that ADHD is a particularly challenging disorder to diagnose in adults, yet this is not the experience of experts in the field who find that in most cases ADHD presents with a highly characteristic pattern of symptoms and impairments.

ADHD is a common neurodevelopmental disorder affecting approximately 5% of children and 3% of adults [1]. Typically, the disorder starts during early childhood and follows a persistent longitudinal course

with symptoms and impairments often seen throughout the lifespan. Follow-up studies establish persistence into adulthood in around two thirds of cases [2]. In adults, the disorder is linked to a wide range of clinical and psychosocial impairments which can be very distressing for individuals and their families. Yet clinical services for adults with ADHD have been slow to develop despite the availability of cost-effective evidence-based treatments [3].

There are many misconceptions regarding ADHD in adults among healthcare professionals, opinion leaders in politics and the media and members of the public [4]. The consequence of such misconceptions includes underdiagnosis, misdiagnosis and poor provision of evidence-based treatments. Validity of the disorder has been questioned despite a considerable amount of data showing that ADHD meets criteria for a mental health condition such as: reliably measured, consistent aggregation of ADHD symptoms in clinical and

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population samples; distinction of ADHD from other domains of psychopathology; association with genetic, environmental and neurobiological variables; association with clinical and psychosocial impairments; and a characteristic course, outcome and response to specific treatments [3,5-7].

ADHD & impairment

ADHD is characterized by the childhood onset of impairing levels of inattention, hyperactivity and impulsivity. Symptoms such as lack of attention to detail, forgetfulness and physical restlessness, which are part of everyday experiences for most people, are continuously distributed throughout the population. Patients with ADHD are on the severe end of this continuum, when such symptoms are pervasive across time, have an impact in multiple settings and are severe enough to have detrimental effects. Indeed, one of the defining characteristics of ADHD is the way that persistent symptoms of inattention, hyperactivity and impulsivity lead to impairments in multiple domains. Impairments include distress from the symptoms, low self-esteem, poor social, educational and employment function, risk-taking behavior and the development of comorbid disorders [5]. Children and adolescents struggle at school and adults struggle in higher education and at work. Adults have problems with organizing their household and finances. Patients with restlessness and impulsivity may commit traffic violations and thoughtless criminal offences [8]. ADHD symptoms have a negative impact on personal relationships and may result in the breakdown of marriages and families. ADHD patients are often seen as unreliable, lazy and trouble-makers. On the other hand, people with ADHD can perform well in professions that require flexibility and creative problem-solving.

Stereotypical views of ADHD

The first medical description of attention deficits in adults was traced to a German doctor and polymath Melchior Adam Weikard in his 1775 book, *Der Philosophische Arzt* (The Philosophical Physician). He characterized people who lack attention as “generally unwary, careless, flighty and bacchanal.” More than 230 years later, patients with ADHD are often portrayed as drug-seeking, antisocial, dangerous or malingering, while others portray ADHD as a ‘disease’ manufactured by healthy people wishing to enhance cognitive performance with stimulants. In terms of etiology ADHD is variably portrayed

as a behavioral problem related to bad parenting, an attachment disorder, the result of food additives, watching too much television or a problem with modern society. However, the scientific basis for ADHD is rapidly developing. We know there is a strong genetic basis for ADHD, which overlaps with conditions such as autism and dyslexia. Chromosomal defects and neurodevelopmental genes are linked to ADHD [9]. There are consistent structural and functional brain changes [10], alterations to the dopamine system [11,12] and problems in the development of core brain processes related to arousal regulation, executive control and reward processing [13].

Diagnosing ADHD

A considerable number of cross-sectional and longitudinal studies have shown that DSM-IV diagnostic criteria for ADHD (or International Classification of Diseases-10 hyperkinetic disorder) can be used for adults with only minor modifications [14]. Nevertheless, mental health professionals and members of the public are worried about the increasing number of children and adults that have been diagnosed with ADHD in the last decade. To some extent this is understandable, as ADHD is a common disorder and therefore the potential number of adults who require treatment is relatively high. The current experience of adult clinics is that many people with ADHD have gone undiagnosed and untreated. The changing pattern of recognition of the disorder is documented by the prescription rates of ADHD medications for children and adolescents, which have increased rapidly from a very low base rate in the mid-90s to the current level of approximately 1%. However prescription rates fall dramatically during adolescence, no longer reflecting the known course of the disorder identified in clinical follow-up studies [15].

One misconception that hinders progress in clinical practice is the view that ADHD in adults is more challenging to diagnose than other psychiatric conditions. However this perspective is not supported by available evidence. There are few other conditions that lead to the characteristic early onset and trait-like persistence of ADHD symptoms, particularly the inattentive and hyperactive symptoms. Diagnosis can be more difficult in the presence of alcohol and drug abuse but this is also the case for other common mental health disorders. In practice, ADHD usually presents as a highly characteristic clinical syndrome [3,14].

There are several potential reasons for this perception of ADHD as a challenging diagnosis. First, this view is not generally shared by child and adolescent mental health teams, reflecting their greater training and exposure to clinical management of ADHD. Second, the developmental nature of ADHD is more characteristic of a personality disorder than adult onset psychiatric disorders. Related to this, many people do not realize that the symptoms of ADHD, which may appear to be similar to character or temperamental traits, can show dramatic improvements to drug treatments for ADHD. Third, ADHD in adults is commonly accompanied by symptom clusters that are also seen in other conditions. For example, mood instability is a particularly common, although nonspecific, feature of ADHD; to the extent that all patients presenting with chronic mood instability or emotional lability should be screened for ADHD [16]. In practice, we often see adult patients with ADHD incorrectly diagnosed with personality disorder or bipolar disorder when they present with co-occurring emotional instability. Finally, ADHD is often perceived as a behavioral disorder, whereas adult patients usually give detailed descriptions of psychopathological phenomena; symptoms such as mind wandering, subjective restlessness, marked irritability when waiting in queues and ceaseless distractible thought processes [14]. Overall the diagnosis is in most cases easily established by paying careful attention to the specific symptoms of ADHD and clarifying their early onset and persistent trait-like course.

Efficacy & safety of ADHD medication

The efficacy of pharmacological treatments for ADHD in adults is well established with similar guidelines from around the world. The latest meta-analysis of methylphenidate studies summarizes 17 randomized, placebo-controlled trials with a mean effect size of 0.5 [17].

Stimulants like dexamphetamine and methylphenidate are the oldest prescription drugs still in use in psychiatry. The view that short-acting stimulants are risky to prescribe to adults (although they are frequently prescribed to children and adolescents) arises from the addiction potential of stimulant medications. However, we know that adolescents treated with stimulants for ADHD do not show an increased propensity towards addiction; and often stop their medication, even after years of treatment. Extended-release preparations have a low addictive potential so their classification as controlled substances

is questionable. Another frequent misconception regarding stimulants is the risk of cardiovascular side effects and complications. Blood pressure can be monitored easily and QT prolongation has not been observed with stimulants. One of the largest observational studies in psychiatry found no increased risk of serious cardiovascular complications (myocardial infarction, sudden cardiac death or stroke) in more than 150,000 treatment episodes (dispensed prescriptions) in adults on stimulants or atomoxetine [19].

Future perspective

Despite good scientific progress, clinical practice has lagged behind. Professional organizations like the UK Adult ADHD Network [101] and patient support groups [102] are fighting against the level of misunderstanding of ADHD and widespread discrimination of adults with ADHD [20]. The funding of new clinical services where adults with ADHD can be treated according to the principles of evidence-based medicine [3,5,6] is difficult in times of public sector austerity programs. However, major progress is now being made in the development of clinical services for adults with ADHD. In the UK, the number of specialist clinics went up from two to more than 30 in the last decade. Future generations of adult psychiatrists will have a better understanding of this disabling condition and its treatment. Clear transitional arrangements and age-appropriate psychosocial interventions for 15–25-year-old patients are necessary. Further development of psychological therapies is expected. Close cooperation with primary mental health services and joint care protocols will ensure that the treatment of adults is rolled out on a broader scale. Atomoxetine and some of the modified-release stimulants will come off patent so that the costs for pharmacological treatment are predicted to go down. If it can be shown that early and ongoing treatment of ADHD reduces comorbidity and impairment, and that treatment can reduce behavioral consequences such as aggression and antisocial behavior, diagnosis and treatment of ADHD in adults will develop from a peripheral into a central subspecialty of adult psychiatry.

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■ Websites

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- 102 The site for and by adults with ADHD. www.aaduk.org