Is ADHD a valid diagnosis in adults?

Philip Asherson and colleagues argue that the concept of ADHD in adults is valid but **Joanna Moncrieff** and **Sami Timimi** believe that it is supported by little more than aggressive marketing

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YES Attention deficit hyperactivity disorder (ADHD) is well established in childhood, with 3.6% of children in the United Kingdom being affected.[1] Most regions have child and adolescent mental health or paediatric services for ADHD. Follow-up studies of children with ADHD find that 15% still have the full diagnosis at 25 years, and a further 50% are in partial remission, with some symptoms associated with clinical and psychosocial impairments persisting.[2]

ADHD is a clinical syndrome defined in the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, by high levels of hyperactive, impulsive, and inattentive behaviours in early childhood that persist over time, pervade across situations, and lead to notable impairments. ADHD is thought to result from complex interactions between genetic and environmental factors.[3]

Proof of validity

Using the Washington University diagnostic criteria, the National Institute for Health and Clinical Excellence (NICE) reviewed the validity of the system used to diagnose ADHD in children and adults.[4 5]

Symptoms of ADHD are reliably identifiable. The symptoms used to define ADHD are found to cluster together in both clinical and population samples. Studies in such samples also separate ADHD symptoms from conduct problems and neurodevelopmental traits. Twin studies show a distinct pattern of genetic and environmental influences on ADHD compared with conduct problems,[6] and overlapping genetic influences between ADHD and neurodevelopmental disorders such as autism and specific reading difficulties.[7 8] Disorders that commonly, but not invariably, occur in adults with ADHD include antisocial personality, substance misuse, and depression.[4]

Symptoms of ADHD are continuously distributed throughout the population.[9] As with anxiety and depression, most people have symptoms of ADHD at some time. The disorder is diagnosed by

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NO Interest in adult attention deficit hyperactivity disorder (ADHD) has grown rapidly in some countries because drug companies have realised that it provides an "expanding and lucrative market" for stimulants and related drugs.[1] They have promoted the concept by suggesting that common behaviours, such as forgetting car keys, may be symptoms,[2] and many adults are being diagnosed who were never diagnosed as children. We explain why little more than aggressive marketing is available to support adult ADHD.

Diagnostic validity

Whether childhood ADHD is a valid and useful diagnosis is disputed on many grounds, including lack of physical or psychological markers, high comorbidity rates, difficulty in differentiating normal symptoms from pathological ones, inconsistent clustering of symptoms, differing cultural perceptions and variation of diagnosis across sex and class,[3] and serious adverse outcomes being more strongly related to co-occurring problems such as conduct disorder and familial conflict.[4] Even if we accept childhood ADHD as valid, the validity of adult ADHD does not automatically follow. ADHD has its origins as a childhood disorder. Symptoms such as impulsivity and hyperactivity are defined and understood as developmental problems, and field trials for developing the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, criteria for ADHD used children and adolescents only.[5] Definitions of adult ADHD include numerous aspects of mental functioning and behaviour that are not usually examined in children—such as mood swings, irritability, stress intolerance, anger, and risk taking—and play down central features of childhood ADHD such as hyperactivity.[6] Moreover, nearly 90% of adults diagnosed with ADHD have at least one other psychiatric diagnosis, and many have two,[7] pointing to high comorbidity with more established diagnoses. Recent guidelines from the National Institute for Health and Clinical Excellence (NICE) noted that adult ADHD overlaps with various personality disorders, as well as depression, anxiety, and modern conceptions of bipolar and bipolar spectrum disorder.[8] Although some research sug-

the severity and persistence of symptoms, which are associated with high levels of impairment and risk for developing co-occurring disorders. ADHD should not be diagnosed to justify the use of stimulant drugs to enhance performance in the absence of a wider range of impairments indicating a mental health disorder.[4]

ADHD symptoms have been tracked from childhood through adolescence into adult life. They are relatively stable over time with a variable outcome in which around two thirds show persistence of symptoms associated with impairments.[2 10 11] Current evidence defines the syndrome as being associated with academic difficulties, impaired family relationships, social difficulties, and conduct problems. Cross sectional and longitudinal follow-up studies of adults with ADHD have reported increased rates of antisocial behaviour, drug misuse, mood and anxiety disorders, unemployment, poor work performance, lower educational performance, traffic violations, crashes, and criminal convictions.[4]

Several genetic,[12] environmental,[13] and neurobiological variables distinguish ADHD from non-ADHD cases at group level, but are not sufficiently sensitive or specific to diagnose the syndrome. A family history of ADHD is the strongest predictor—parents of children with ADHD and offspring of adults with ADHD are at higher risk for the disorder. Heritability is around 76%,[12] and genetic associations have been identified.[14] Consistently reported associations include structural[15] and functional brain changes,[15-19] and environmental factors (such as maternal stress[20] during pregnancy and severe early deprivation[21]).

The effects of stimulants and atomoxetine on ADHD symptoms in adults are similar to those seen in children.[4 22 23] Improvements in ADHD symptoms and measures of global function are greater in most studies than are reported in drug trials of depression. The longest controlled trial of stimulants in adults showed improvements in these response measures over six months.[24] Stimulants may enhance cognitive ability in some people who do not have ADHD, although we are not aware of any placebo controlled trials of the effects of stimulants on work or study related performance in healthy populations. This should not, however, detract from their specific use to reduce symptoms and associated impairments in adults with ADHD.[25]

Psychological treatments in the form of psychoeducation, cognitive behavioural therapy, supportive coaching, or help with organising daily activities are thought to be effective.[26] Further research is needed because the evidence base is not strong enough to recommend the routine use of these treatments in clinical practice.

Conclusions

ADHD is an established childhood syndrome that often (in around 65% of cases) persists into adult life. NICE guidelines are a milestone in the development of effective clinical services for adults with ADHD. Recognition of ADHD in primary care and referral to secondary or tertiary care specialists will reduce the psychiatric and psychosocial morbidity associated with ADHD in adults.[4]

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gests that adult ADHD symptoms are associated with academic impairment and problems with work and driving,[9] we do not know how much of this is just normal variation or is related to comorbid conditions.

Longstanding problematic patterns of behaviour in adults are usually referred to as personality traits or disorders. A more robust evidence base is surely required before accepting a concept such as adult ADHD, which departs from established views of the nature of behavioural problems, has a large overlap with other diagnoses, and has only a tenuous association with the childhood disorder.

Drug treatment

A major driver behind the increased popularity of diagnosing adult ADHD is the idea that it responds to treatment with stimulant drugs. Studies in children show that stimulants can improve attention and reduce activity levels in the short term, but that they have little impact on quality of life or academic performance and initial beneficial effects are not sustained on long term follow-up.[10] Even the NICE guidelines recommend restricting stimulant use to children with the most severe symptoms, or those in whom other treatments have failed.[8] NICE, however, recommends stimulants as first line treatment for everyone with adult ADHD. This recommendation was made on the basis of three randomised controlled trials, two of which were conducted by a group at Harvard, which was found to have substantial conflicts of interests.[11] The third was a small crossover study of three weeks' duration that comprised 45 subjects. A recent meta-analysis of a larger group of methylphenidate studies found no significant difference between drug and placebo in studies that used the generally superior parallel group design (effect size 0.36, 95% confidence interval −0.17 to 0.88), as opposed to crossover studies. It also showed that trials by the Harvard group reported substantially higher effects than others.[12] The only long term drug trial yet published (atomoxetine) was negative for its main outcomes at six months.[13] With regard to risks, stimulants are known to increase heart rate and blood pressure, and prolonged recreational use can result in myocardial infarction and stroke.[14]

Physical and psychological dependence are a further potential problem, and in countries with high rates of stimulant prescribing, much is diverted on to the black market.[15] Popularising the diagnosis of adult ADHD also encourages people to regard longstanding behavioural problems as amenable to a quick fix, thus introducing, undebated, a form of cosmetic psychopharmacology that fits into our increasingly hyperactive lifestyles but at a price of distancing us from our own psychosocial resources and abilities.

Conclusion

The speed with which the diagnosis of adult ADHD has been accepted, its vagueness, and the lack of evidence for the usefulness of specific treatments indicate that it is the latest of several medical and psychiatric fashions, which have been fuelled by the interests of the drugs industry. More research and debate is needed before the diagnosis is embraced and widespread stimulant prescribing becomes the norm, otherwise we may face a scandal similar to the overprescribing of benzodiazepines.

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