NICE guideline: attention deficit hyperactivity disorder

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INTRODUCTION

ADHD (attention deficit hyperactivity disorder) is a heterogeneous behavioural syndrome characterised by maladaptive levels of hyperactivity, impulsivity and inattention. ADHD (as defined by DSM-IV-TR) is a common disorder affecting 3.6% of boys and 0.85% of girls between the ages of 5 and 15 years in the UK.[1] DSM-IV describes three subtypes of ADHD according to the mixture of symptoms: predominantly inattentive (ADHD-I), predominantly hyperactive-impulsive (ADHD-HI) and combined type (ADHD-C). The ICD-10 definition of hyperkinetic disorder (HKD) describes a severe subgroup of the DSM-IV combined type ADHD and affects about 1.5% of primary school-age boys. In recent years there has been an increase in the clinical recognition of ADHD/HKD with a corresponding rise in the numbers diagnosed and treated, from an estimate of 0.5 per 1000 children diagnosed in the UK 30 years ago[2] to more than 3 per 1000 receiving medication for ADHD in the late 1990s.[3] This article summarises the main recommendations from the ADHD guideline produced by the National Institute for Health and Clinical Excellence. Readers should refer to the full guideline for the complete set of recommendations and supporting evidence[4] (www.nice.org.uk/CG072).

WHAT THE GUIDELINE COVERS

- The diagnosis of ADHD in children, young people and adults
- The treatment of children aged 3 years and older, young people (12–18 years) and adults with a diagnosis of ADHD and HKD
- Specific treatments such as pharmacological and psychological interventions including family interventions, cognitive–behavioural treatments and parent training; other physical treatments are also considered such as dietary elimination and supplementation
- The management of ADHD in the presence of co-morbid conditions in children, young people and adults including conduct problems, anxiety, autism spectrum disorder (ASD), learning disability, neurological disorders and substance misuse
- The organisation of care and services for children, young people and adults with ADHD.

METHODOLOGY

The guideline was developed by the National Collaborating Centre for Mental Health using standard NICE methodology, the details of which are given in *The guidelines manual*.[5] NICE has published two technology appraisals relevant to the management of ADHD on drug treatment (www.nice.org.uk/TA098) and on parent training/education programmes (www.nice.org.uk/TA102). The guideline incorporates recommendations from both technology appraisals. The full guideline is over 600 pages long and covers all aspects of ADHD from epidemiology and aetiology to treatment and organisation of services. While not a document to be read from cover to cover, it provides a detailed review of the literature for those wishing to learn more about specific aspects of aetiology, diagnosis and management.

Key clinical messages

- Attention deficit hyperactivity disorder (ADHD) should only be diagnosed by specialists in secondary care.
- ADHD can be diagnosed in adults and in children with coexisting learning disability and/or autism spectrum disorder (ASD).
- Drug treatment is not recommended in preschool children.
- Parent training/education programmes should be used as first-line treatment for preschool children and older children with moderate ADHD.
- Drug treatment should be offered as a first-line treatment to school-age children and young people with severe ADHD and to adults. Parents should also be offered a group-based parent training/education programme.

RECOMMENDATIONS

Diagnosis

- Diagnosis should only be made by a psychiatrist, paediatrician or other healthcare professional with specialist training and expertise in the diagnosis of ADHD.
- ADHD should be considered in all age groups. Adjust symptom criteria for age-appropriate changes in behaviour. Diagnosis should be based on:
  - a full clinical and psychosocial assessment (discuss symptoms and impairment in the different domains and settings of the person's everyday life)
  - a full developmental and psychiatric history

  - observer reports (eg, from parents, teachers, spouse/partner) and an assessment of mental state.
- Diagnosis should be made when symptoms of hyperactivity, impulsivity and inattention:
  - meet the criteria in DSM-IV or ICD-10 (HKD)
  - are associated with at least moderate psychological, social and/or educational or occupational impairment based on interview and/or observation in multiple settings
  - are persistent and trait-like (ie, not episodic).
- As part of the diagnostic process, include an assessment of coexisting conditions, social, familial and educational or occupational circumstances, and physical health. For children and young people also include an assessment of the parents' or carers' mental health.
- Do not diagnose ADHD based on rating scales or observational data alone. However, rating scales are valuable adjuncts, and observations (eg, at school) are useful if there is doubt about the presence of symptoms and impairment in different settings.
- Take into account children or young people's views when determining the clinical significance of impairment.

IDENTIFICATION AND REFERRAL TO SECONDARY CARE

Primary care

- Determine the severity of symptoms and impairment suggestive of ADHD and how they affect the child or young person and their parents or carers in different domains and settings.
- Where impairment is of least moderate severity such that impairment attributable to ADHD occurs across multiple domains and settings (eg, adverse impact on development, family life, friendships and education), consider:
  - watchful waiting for up to 10 weeks
  - offering referral to a parent training/education programme; this should not wait for a formal diagnosis of ADHD.
- If the problems persist with at least moderate impairment, refer to secondary care (paediatrician, child psychiatrist or specialist ADHD child and mental health services (CAMHS)).
- If the problems are associated with severe impairment (corresponding to a diagnosis of HKD with impairment affecting multiple domains in multiple settings), refer directly to secondary care.

It can be seen from the recommendations above that those children identified in primary care with moderate impairment may be observed with watchful waiting for up to 10 weeks or referred to a group-based parent training programme without a formal diagnosis of ADHD.

School

- Universal screening for ADHD should not be undertaken in schools or nurseries.
- On referral to a special educational needs coordinator (SENCO), the SENCO should:
  - advise teachers on classroom strategies to help children or young people with suspected ADHD
  - inform the parents about local group-based parent training/education programmes.

TREATMENT AND MANAGEMENT

Preschool children

- Drug treatment is not recommended.
- Offer parents or carers referral to a group-based parent training/education programme as first-line treatment if they have not attended one, or if it has been only partially effective.
- If treatment is effective, before discharge from secondary care:
  - review the child with their parents or carers and siblings for residual coexisting conditions and develop a treatment plan for these if necessary
  - monitor for recurrence of ADHD symptoms and associated impairment after the child starts school.
- If treatment is ineffective consider referral to tertiary services.

School-age children and young people with moderate ADHD

- Drug treatment is not indicated as first-line treatment.
- Offer parents or carers referral to a group-based parent training/education programme or other group-based psychological treatments (cognitive–behavioural therapy (CBT) and/or social skills training) for the child or young person.
- Consider individual psychological interventions (such as CBT or social skills training) for older adolescents.
- If treatment is effective, before discharge from secondary care, review the child or young person with their parents or carers and siblings for residual problems such as anxiety, aggression or learning difficulties. Develop a treatment plan for these if necessary.
- Reserve drug treatment for children and young people with:
  - moderate impairment where non-drug interventions have been refused
  - persisting symptoms and impairment following a parent training/education programme or group psychological treatment.

School-age children and young people with severe ADHD (hyperkinetic disorder)

- Offer drug treatment as first-line treatment (see below). Also offer the parents a group-based parent training/education programme.

- If drug treatment is not accepted, advise parents or carers and the child or young person of the benefits and superiority of drug treatment. If drug treatment is still not accepted, offer a group parent training/education programme.
- If group parent training/education is effective for those who refused drug treatment:
  - assess for coexisting conditions
  - develop a longer-term care plan.
- If group parent training/education is ineffective for those who refused drug treatment:
  - discuss drug treatment again, or other psychological treatment (group CBT and/or social skills training)
  - highlight the benefits and superiority of drug treatment in severe ADHD.

The guideline contains detailed recommendations for drug treatment and monitoring.

- Drug treatment should:
  - only be started by a healthcare professional with expertise in ADHD
  - always form part of a comprehensive treatment plan that includes psychological, behavioural and educational interventions.
- A predrug treatment assessment should be carried out as shown in figure 1.

Choice of drug treatment

- Methylphenidate, atomoxetine and dexamfetamine are recommended, within their licensed indications, as options for the management of ADHD.
- Decide which drug treatment to use based on:
  - comorbidities (eg, tics, Tourette's syndrome, epilepsy)
  - their different adverse effects
  - potential problems with compliance (eg, modified release/once daily formulations to avoid taking medication at school)
  - potential for drug diversion and misuse
  - preferences of the child or young person and their parent or carer.
- Consider:
  - methylphenidate for ADHD without significant comorbidity
  - methylphenidate for ADHD with comorbid conduct disorder
  - methylphenidate or atomoxetine in the presence of tics, Tourette's syndrome, anxiety disorder, stimulant misuse or risk of stimulant diversion
  - atomoxetine if methylphenidate has been tried and has been ineffective at the maximum tolerated dose, or the child or young person is intolerant to low or moderate doses of methylphenidate.

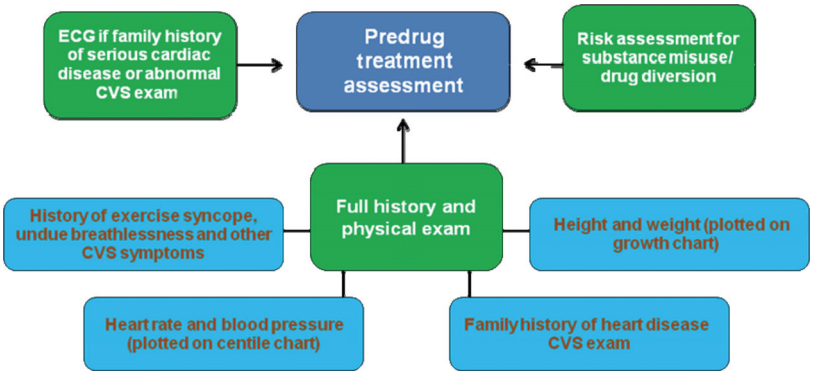

Figure 1 A predrug treatment assessment.

Transition to adult services

- Re-assess a young person treated in CAMHS or paediatric services at school-leaving age to determine if treatment needs to be continued. If it does, arrange for transition to adult services (usually by age 18), giving details of the anticipated treatment and services required.
- Consider a formal meeting involving CAMHS and/or paediatric and adult psychiatric services.
- Give the young person information about adult services and involve them, and their parent or carer, in the planning. Use the care programme approach for young people aged 16 years and older.
- After transition, carry out an assessment of personal, educational, occupational and social functioning, and coexisting conditions, especially drug misuse, personality disorders, emotional problems and learning difficulties.

COMMENTARY

The guideline represents an important advance in the evidence-based management of ADHD. A number of new and clinically relevant issues are addressed by the guideline:

- The diagnosis and treatment of ADHD in adults
- The recognition that ADHD can occur alongside coexisting conditions such as autism/ASD and learning disability
- The distinction between "moderate" and "severe" ADHD, where severe ADHD corresponds approximately to the ICD-10 diagnosis of HKD with severe impairment affecting multiple domains in multiple settings
- The proposal of a "stepped-care" model for management where the degree of impairment is a key factor in determining the level of intervention, with psychological interventions generally considered prior to, or alongside, drug treatment
- The recommendation that psychological treatments, predominantly group-based parent training, should be offered as first-line treatment in all preschool children with ADHD and to older children with moderate ADHD.

While the guideline is based on the best available evidence, important gaps in the evidence base should also be recognised and affect some key recommendations. The evidence supporting

group-based parent training programmes comes almost entirely from preschool children with ADHD and school-age children with conduct disorder.[6] Although drug treatments are often used for many years, there is little evidence regarding the long-term risks and benefits of drug treatment for ADHD.

The guideline also raises considerable challenges both for front-line clinicians and those organising and planning services. The onus is on primary care practitioners and schools to recognise possible ADHD and make referrals to secondary care for diagnostic assessment. The guideline requires practitioners in primary care to make an important distinction between moderate and severe impairment, which may be difficult for busy clinicians with limited training and experience. The recommendation of group-based parent training programmes aimed at parents of children with conduct problems may not adequately address the needs of parents for specific psychoeducation and advice on ADHD management. In secondary care, there is a lack of availability of psychological treatments for children with ADHD. Finally, it is likely that increasing numbers of young people will require transition to adult services and this together with more adults being referred with suspected ADHD will have major implications for training and service delivery within adult mental health services.

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