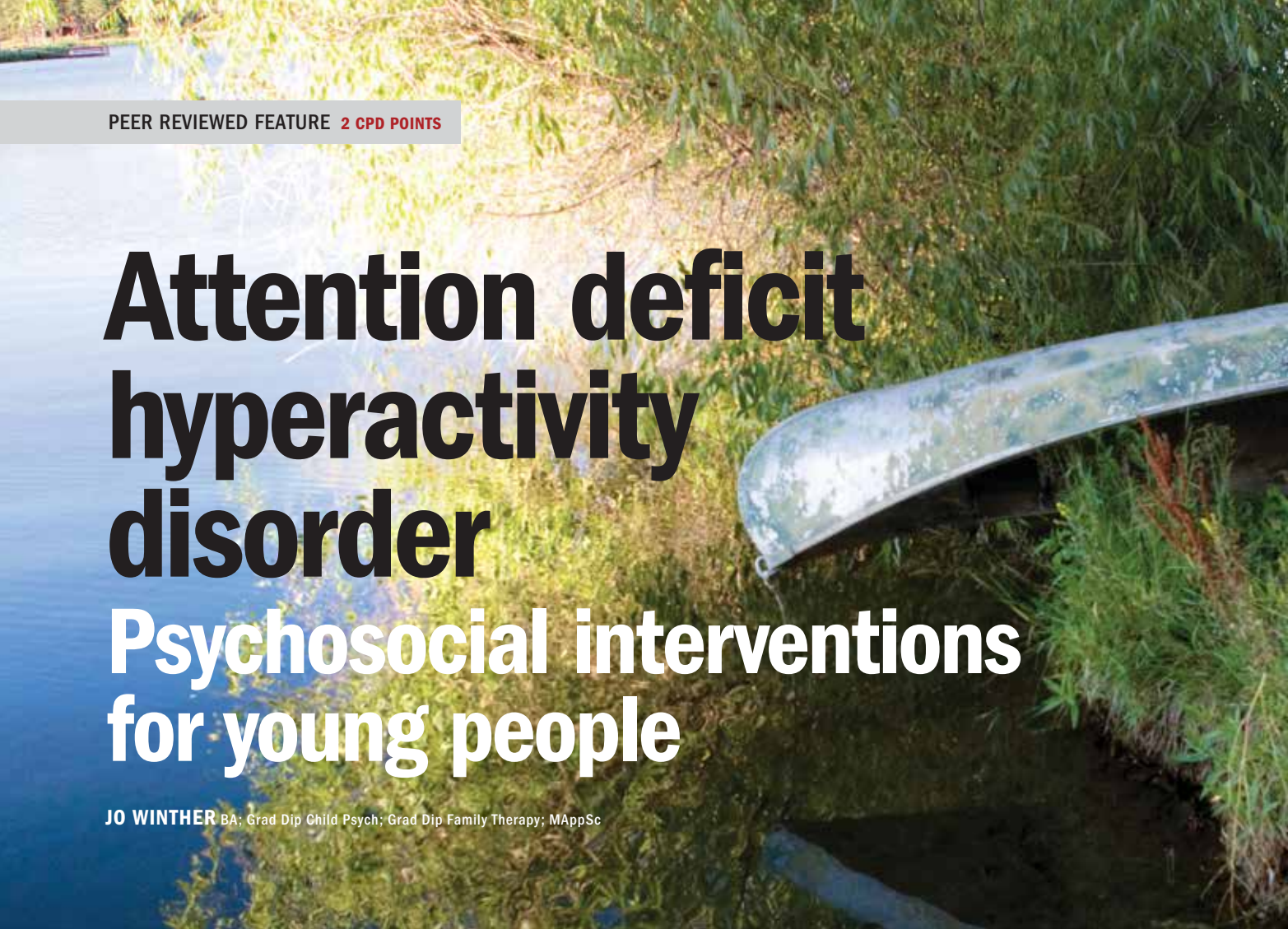

Attention deficit hyperactivity disorder

Psychosocial interventions for young people

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Secondary symptoms of attention deficit hyperactivity disorder (ADHD) and co-occurring problems can persist in young people despite medication and be crucial to long-term prognosis. They include social, learning and behavioural difficulties and mental health problems. Psychosocial assessment and interventions such as behavioural management programs and school support are important components of treatment.

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Attention deficit hyperactivity disorder (ADHD) is a common childhood psychiatric disorder characterised by a persistent pattern of hyperactivity, impulsivity and/or inattentiveness that is more frequent and more severe than in other individuals at the same developmental stage. ADHD in young people is often associated with significant functional impairments at home and school and is a major driver for referrals to health and welfare services. Despite the common primary symptoms of ADHD, presentation (secondary symptoms) can differ significantly between individuals, suggesting that there is no 'one size fits all' psychosocial intervention for young people with ADHD. As the secondary symptoms are sometimes the most socially disruptive and disadvantageous long term, it is important to complete a comprehensive assessment of the individual's strengths and weaknesses and any associated conditions such as learning difficulties and mental health problems. A shift of emphasis may be required when assessing and designing treatments.

The reported effective treatment for primary symptoms of ADHD comprises stimulant and nonstimulant medications. The therapeutic effects and management of medication for ADHD were discussed in an article in the October 2013 issue of *Medicine Today*.[1] However, some families prefer to use nonpharmacological interventions either initially or longer term; and some young

KEY POINTS

- Secondary symptoms of attention deficit hyperactivity disorder (ADHD), such as social, learning and behavioural difficulties, can be crucial to the long-term prognosis of young people with this condition and can persist even with pharmacological treatment.
- Co-occurring problems, especially language-based learning difficulties, can contribute to primary and secondary ADHD symptoms and influence psychological therapies.
- A comprehensive assessment to identify secondary symptoms and co-occurring problems is essential in young people with ADHD.
- Secondary symptoms and co-occurring problems vary greatly between individuals, suggesting that there is no 'one size fits all' psychosocial intervention.
- Treatment of ADHD is most effective when a combination of cognitive behavioural management strategies, school support and medication is used, with allied health referral when appropriate.

people with ADHD continue to have difficulties with relationships, learning and employment even when taking medication. This raises the question: What psychosocial interventions are effective in young people with ADHD?

Current literature

There is currently controversy regarding the effectiveness of behaviour modification for young people with ADHD. A 2008 literature review of parent behavioural training for children with ADHD found it to be significantly helpful.[2] Findings such as these have led to the inclusion of behavioural interventions in evidence-based treatment guidelines for ADHD, such as the UK National Institute for Health and Care Excellence (NICE) guidelines.[3]

However, more recently the European ADHD Guidelines Group reviewed 54 studies of nonpharmacological interventions for ADHD.[4] They performed two analyses. When they looked at measures completed by raters closest to the therapeutic setting (parents), dietary treatments (supplementation with free fatty acids and diets excluding artificial food colouring) and psychological treatments (behavioural interventions, neurofeedback and cognitive training) produced statistically significant effects. However, when they looked at studies that used only blinded assessment raters (e.g. teachers), the effects remained significant for dietary treatments but were not significant for the other interventions.

Although a critique of the methods used in this review is beyond the scope of this article, several issues are pertinent. Firstly, in clinical practice we know the view of parents is crucial to the success of treatment. If parents believe that a young person's behaviour is improving then they are more likely to see the young person in a positive light and find it easier to praise and reinforce positive behaviours, potentially increasing these behaviours. These behavioural improvements may then increase the parents' self-esteem, confidence in their parenting capacity and overall mental health, reducing the risk factors for further behavioural problems in the young person.

Secondly, most behaviour management programs for parents were not developed as ADHD treatments but focus on disruptive, noncompliant behaviours in children, which are common comorbidities (secondary symptoms) rather than primary ADHD symptoms. More recently, behavioural parenting programs are being developed that claim to address core ADHD symptoms and are in the initial stages of evaluation. Two of these are the New Forest Parent Training Programme and the *Step by Step Help for Children with ADHD* self-help manual for parents.[5-7]

Assessing psychosocial issues

Young people with ADHD share some primary core features. Those with the predominantly hyperactive–impulsive type of ADHD show difficulties with heightened activity levels, impulsive actions, inability to wait for turns in games, fidgetiness and constant moving or running around. Young people with the

1. AREAS FOR ASSESSMENT IN YOUNG PEOPLE WITH ADHD

Social skills difficulties

- Is your child able to make friends?
- Is your child able to keep friends?
- How many friends does your child have?
- Does your child have a best friend?

Learning and study skill difficulties

- How is your child going academically (oral and reading comprehension, spelling and maths)?
- What are their communication skills like (expressing their thoughts and knowledge; understanding what others are saying, particularly for school tasks)?
- What are their study skills like (note taking, time management, test taking)?
- What support strategies are used and do they work?

School behavioural issues

- How many schools have they attended?
- What is their attendance rate like?
- What is their relationship like with the teachers?
- Have they had any involvement with school support services?
- Do they understand behavioural instructions and processes?

Working memory difficulties

- Is your child able to remember things?
- How many instructions at a time are they able to remember?
- Are they able to hold information in their mind and use it immediately (e.g. 5+5=10) or remember key facts over time?
- Is 'poor memory' due to poor comprehension?

Coexisting conditions

- Does your child worry a lot?
- Are there more days than not when they are down or irritable?
- Do you have any behavioural concerns with your child?
- Do they have language and speech difficulties? (e.g. poor story structure, not understanding abstract ideas, difficulties creating a sentence such as mixing up words, forgetting words, unclear words)
- What are their gross and fine motor skills like?

Parenting styles

- Are you confident in your parenting ability?
- Are you able to remain calm when dealing with misbehaviour or do you argue with your child?
- Do you have the energy you need to parent your child?
- Do you enjoy spending time with your child?
- Do you talk to your child about their problems?

Parental psychopathology

- Do you ever feel down or irritable for long periods of time?
- Do you ever feel low in energy or have lost interest in things?
- Do you ever feel nervous or shaky inside or worry about things too much?
- Do you have any physiological symptoms such as headaches; hot or cold spells; poor appetite; constipation or loose bowel motions and/or sleep difficulties?

Abbreviation: ADHD = attention deficit hyperactivity disorder.

predominantly inattentive type of ADHD show difficulties in maintaining attention, disorganisation and high levels of distractibility. Those with the combined type of ADHD typically display both groups of difficulties. A number of questionnaires focus on assessing these core symptoms.

Despite the clear similarities in primary symptoms, young people with ADHD often differ in their secondary symptoms, including social, educational and behavioural difficulties, and co-occurring or comorbid problems, such as developmental impairments, language-based learning difficulties and mental health problems, which can also significantly affect their functioning in daily life. It is important to screen for these secondary symptoms and co-occurring or comorbid problems during the initial assessment as young people could often benefit from psychosocial interventions and referral to allied health professionals, including psychologists and speech and occupational therapists. Parental management skills and mental health should also be assessed to ensure parents are able to implement any management recommendations for their children.

Recommended areas to assess in young people with ADHD and useful questions are listed in Box 1. Suggested psychosocial interventions are discussed below.

Psychosocial interventions

Social skills difficulties

Relationships, especially with peers, are crucial for all people. Success or failure in the peer domain is an important predictor of long-term social, emotional and behavioural adaptation.[8] Peer group acceptance and friendship success rely on the young person having competent social skills. Common difficulties for children with ADHD include:

- listening to what others are saying to them
- paying attention to important information
- waiting
- taking turns and playing co-operatively
- regulating their emotions
- making and keeping friends
- communicating effectively, including being assertive
- negotiating and resolving conflict.

2. STRATEGIES FOR YOUNG PEOPLE WITH WEAK ORGANISATIONAL SKILLS

- Ensure homework areas are arranged in an orderly manner and belongings are easily accessible as required
- Use lists and charts for daily tasks and display these where they can be seen
- Teach skills on what to do before beginning a task or leaving (e.g. asking: Do I have all I need? Did I put everything away?); the important part is get the young person to stop and think
- Use mental pictures to help the young person remember everything
- Teach the person to plan ahead for assignments, school activities and outings
- Use buzzers and timers to help remind the person of time
- Help the person to prioritise assignments and activities
- Use transitional strategies to ensure the person does not become distracted between tasks (e.g. visual timers, verbal warnings, 'first/then' instructions)

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For most young people, social skills are best taught in group settings, so that they can practice with their peers, and within their own environment, to help them generalise the skills to their everyday situation, such as education. If a young person is referred to an external social skills group then it is important to check that the above areas are covered at an appropriate developmental and cognitive level for the individual.

Learning and study skills difficulties and coexisting developmental impairments

Young people with ADHD have IQs spanning the same range as the general population, but many are academic underachievers.[9] There is a strong association between ADHD symptoms and language-processing impairments, especially more complex language, speech and reading problems, and motor difficulties.[10] Some young people with ADHD may also be at increased risk of the additional impairments in executive function and attention that accompany associated conditions, such as autism spectrum disorder, intellectual disability, fetal alcohol exposure and specific genetic syndromes, including fragile X syndrome, neurofibromatosis 1 and velocardiofacial syndrome.

Children with ADHD often initially perform well academically but fall behind their peers when the workload and demands on their attention and executive functioning increase. Increasing demands on language, speech and motor output require more mental effort and expose additional vulnerabilities. Therefore, it is essential to assess and monitor these areas over time and provide specific therapy. Psychological therapy must take into account the young person's level of language comprehension and expression.

It is also important to ensure that young people with ADHD learn good study skills, such as note-taking, time management, test taking, persistence and confidence. Strategies to help young people with weak organisational skills are listed in Box 2.

Some evidence suggests that inattention may be a major factor in the low academic performance of young people with ADHD. Attention difficulties can be seen in three main areas:

- the ability to focus on a particular activity for a sustained period of time
- the ability to shut out information that is irrelevant and potentially distracting
- the ability to shift attention voluntarily between different activities.

Understanding the attention difficulties that a young person is experiencing will help to target individual reward-based behavioural programs to assist. Teaching the young person strategies such as verbal self-instruction ('thinking out loud' when completing a task), self-monitoring (rating their own attention levels during tasks) and self-reinforcement (recognising and valuing their own achievements) is also important.

School behavioural issues

It is essential to include schools and teachers in treatment programs when building a care team. School-based interventions should aim to:

- improve teacher–student relationships
- improve school and home links
- increase teacher competencies
- develop young people's social and problem-solving skills.

Keeping young people with ADHD at school is a long-term protective factor.

Providing teachers with psychoeducation and training on ADHD has been shown to

- improve behaviour and attitudes towards school and reading in students with ADHD
- enhance teachers' reported quality of life
- reduce ADHD symptoms and to improve academic test scores.[11]

There are a number of effective classroom management programs that aim to reduce disruptive behaviour and promote prosocial behaviour. The core curriculum of these programs focuses on:

- use of effective behavioural strategies
- use of incentives and consequences
- clear classroom rules
- use of nonharsh discipline
- promotion of strong home–school links.

Working memory difficulties

Some young people with ADHD have been shown to have deficits in executive functioning, primarily working memory. Working memory is the ability to hold and manipulate information in the mind over short periods of time (e.g. mental arithmetic and following instructions). Working memory skills are closely associated with learning. Some researchers claim they can increase an individual's working memory capacity, but there is no evidence that general working memory capacity can be improved and then generalised to the classroom to increase academic achievement. In addition, working memory training has not been shown to be an effective treatment for ADHD. When assessing a young person's memory, first ensure that the memory difficulty is not due to poor comprehension.

It is important to identify children with working memory difficulties as they are at risk of poor academic progress, and the environment can be manipulated to help them with their deficits. Strategies to help young people with working memory deficits, including strategies to teach to the young people and strategies for teachers, are outlined in Box 3.

3. STRATEGIES FOR YOUNG PEOPLE WITH WORKING MEMORY DEFICITS

Strategies to teach the person

- Ask for help when needed
- Use chunking, rehearsal and rote learning to remember key information
- Generate mental images of information
- Use a diary and keep lists
- Take frequent breaks and set realistic targets while studying

Strategies for teachers

- Look for warning signs of memory overload
- Reduce distractions and create quiet working areas
- Gain the young person's attention before giving instructions
- Use short sentences
- Guide the young person through tasks using prompts
- Use visual and verbal aids wherever possible
- Reduce the amount of information to be remembered
- Repeat instructions
- Partner the young person with a schoolmate with good memory abilities
- Provide written notes
- Practice dictation exercises to help the young person develop auditory memory skills

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Comorbid mental health conditions

Young people with ADHD have a greater than chance occurrence of a number of other psychiatric conditions, including anxiety disorders, depressive disorders and disruptive behaviour disorders.[12] It is important to identify these conditions as effective psychosocial treatments exist. Early referral to psychologists who can provide psychoeducation, cognitive behavioural therapy and management strategies for parents is essential to ensure the best outcomes for young people with these conditions.

Parenting styles

There is no clear evidence that parenting styles are a risk factor for the development of ADHD in young people. However, dysfunctional parenting styles have been clearly linked to creating, maintaining and exacerbating defiant behaviour and predict the development of oppositional and conduct problems in children with ADHD.[13] Parenting a child with ADHD can have a significant adverse effect on the family system, creating tension and stress and potentially disrupting family functioning. Parenting stress can negatively impact on marital relationships, causing parental conflict and marital dissatisfaction. Separation and divorce are more common in families with children with ADHD than in healthy control families.[14]

Assessment of parenting management skills is recommended to ensure that parents are using positive parenting strategies as a protective factor to help prevent conduct problems. If parents express difficulties in this area then it is important to refer them to a behavioural training program that covers certain core elements (Box 4). Behaviour management skills should be taught through a variety of methods, including psychoeducation, role-playing, behavioural rehearsal, modelling, providing written materials and reviewing goals and progress.

Parental psychopathology

Rates of parental psychopathology, particularly maternal depression and anxiety, are higher in ADHD-affected families. The level of depressive symptoms in mothers has been found to predict negative biases in their reports of their child's ADHD symptoms and general behavioural problems, their own perception of a negative parenting style and problematic parent–child interactions. Maternal depression can also predict conduct problems two to eight years after the child's initial assessment for ADHD.[13]

It is important to assess the mental health of both parents and caregivers and to be open to discussing the impact of poor mental health on their ability to parent effectively and implement any recommendations for ADHD management. It is common that parents put their child's needs before their own

4. CORE ELEMENTS OF A BEHAVIOURAL TRAINING PROGRAM FOR PARENTS OF CHILDREN WITH ADHD

Principles of positive reinforcements
- Identifying desired child behaviours
- Labelled praise
- Types of reinforcements
- Behavioural reward systems

Building the parent–child relationship
- Affection
- Avoiding criticism
- Positive play
- Building empathy

Problem-solving skills
- Generating alternative solutions
- Evaluating options
- Considering consequences of each option
- Providing self rewards
- Preventing relapse

Principles of effective limit-setting and consequences
- Giving instructions
- Setting limits
- Steps for responding to misbehaviour
- Logical consequences
- Planned ignoring
- Quiet time
- Time out

Emotional regulation and parent self-care
- Anger management
- Perspective taking
- Recognising triggers of anger and anxiety
- Relaxation skills
- Pleasant events
- Partner support

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in seeking help; it is crucial to stress that their own mental health is equally important. The parents may also require mental health referral.

Conclusion

Treatment of young people with ADHD is most effective when a combination of behavioural management strategies, school support and medication is used with allied health referral when appropriate. Young people with ADHD can differ in their presentation of secondary symptoms; therefore, it is important to undertake a comprehensive assessment of their functioning in all areas of life. All coexisting impairments should be evaluated and supported, especially as they can influence psychological therapies. Psychosocial interventions play an important role in the treatment of secondary symptoms of ADHD and comorbid difficulties. MT

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