Non-drug Management

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Abstract

The words "inattentive" or "hyperactive" are often applied when a young person seems to lack concentration, or is overly boisterous, disorganised or consistently acting in a manner that is at odds with the demands of their environment. For some, these difficulties will be sufficiently chronic, pervasive and impairing that a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) may be warranted. At present, ADHD is recognised to be a biologically-based neurodevelopmental disorder that can be effectively treated through medication. However, there is also a wide range of non-drug approaches that can be used on their own or in conjunction with medication to treat, support, and empower affected individuals and their families. This paper discusses the value of psychoeducation, behavioural therapy, social skills training and cognitive behaviour therapy (CBT) in the management of ADHD and signposts the reader to additional relevant sources.

Introduction

Almost everyone exhibits overactive, inattentive or impulsive behaviour on occasions. Indeed, there are some situations and environments where behaving in a disinhibited or hyperactive manner may be the most adaptive style of responding. Expectations for behavioural control differ across situations and cultures, yet the vast majority of children and young people will, through the course of normal development and experience, acquire the capacity to ascertain what is required in a given setting, to control and execute their behaviour accordingly, and to modify their behaviour as needed when demands in the environment change. For these children, the ability to manage themselves in relation to what is expected and what is likely to lead to the most desired or useful outcome will become second nature and relatively automatic. For a small minority of others, however, effective self-regulation and behavioural control will remain elusive. When this happens, when such capacities fail to emerge in a timely manner, the young person is at considerable risk of encountering a range of difficulties. They will almost certainly present parents and teachers with a host of challenges. For a subset of these children, young people and adults, their struggles with overactivity, inattention, and impulsiveness will be sufficiently impairing, pervasively present, and chronic that a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) will be warranted.

Longitudinal research leaves little doubt that hyperactivity has the potential to compromise long-term educational, social and behavioural functioning significantly (1). Clear guidelines and best practice protocols are available to help guide professionals in evaluating, diagnosing, and treating hyperactive behaviour (2). This paper presents the issues associated with managing ADHD through non-drug means, highlighting key concepts and strategies. As an exhaustive review of options is available elsewhere (3), the current discussion is meant to introduce what is available and provide a platform for thinking how to access, apply, and evaluate these options in clinical practice.

What is "non-drug management"?

Treatment approaches in general can take many forms but, broadly speaking, it can be useful to categorise them into two general types: "pharmacological" and "non-drug". Terms that are often used synonymously with pharmacological approaches to ADHD include: "psychopharmacology," "drug therapy", "physical treatments," and "medical interventions." In the "non-drug intervention" category, the words "psychological," "psychosocial," "environmental", or "non-medical approaches" are used interchangeably. These terms can lead to confusion. For example, the authors of "What works

for whom," state, "**Psychosocial treatment** is arguably the most rigorously evaluated of all **medical interventions**, and certainly this is the case for mental health interventions." (4, p19) (emphasis added). Whilst this compliments the robustness of the evidence base, the phrase also exemplifies that psychosocial approaches can be considered "medical" in certain contexts.

In this article, "non-drug management" means those approaches that do not involve pharmacological agents. The NICE guidance for ADHD (4) stipulates that "drug treatment for children with ADHD should always form part of a comprehensive treatment plan that includes psychological, behavioural, and educational advice and interventions" (p 5). Psychological, behavioural and educational aspects can all effect change by manipulating the external environment and are capable of being delivered indirectly through others. Any approach to treating ADHD must be targeted towards changing functioning at the level of observable behaviour. Treatments that improve test scores or alter brain neurochemistry are interesting. Indeed, some cognitive remediation programmes are promising in terms of improving performance on neuropsychological tests of attention (5), but reducing symptoms and improving daily functioning, especially adaptive functioning (6), remain the ultimate goal. In addition, treatment should empower patients and parents to understand, accept, and cope with the disorder and its impact. Encouraging patients and families to develop a degree of ownership and participation in intervention, communicates the message that they are an important and valued part of the "management team".

Creating the "management team"

The medical consultant on a team will naturally lead on pharmacological intervention, but professionals from many different disciplines can be involved in the monitoring of medication effects, and contribute actively to non-drug management of hyperactivity. Parents, caregivers and the patients themselves should have a voice in describing and quantifying difficulties and treatment-associated changes. Intervention becomes something young people are collaboratively "involved in," rather than something that is "done to" them. Management of ADHD requires a team approach and members of the team may change as treatment progresses, the young person matures, symptoms improve, or the expression of the disorder evolves.

Where to start?

In theory, decisions around treatment priorities and approaches flow directly and easily from an understanding of the key problems, the impact of these difficulties, and - to some degree – the presumed causes of the issues. In technical terms, this "understanding" is often referred to as the "case formulation". A formulation encompasses the diagnosis, but is not synonymous with it. Formulations contain additional information that put diagnoses in context. They capture how an individual is uniquely affected by ADHD. Based upon the formulation, clinicians can create a treatment plan that offers a personalised package of patient-centred, evidence-based, principle-driven care that is appropriate for the individual's developmental stage and social context. Ideally, such a plan also includes the manner by which treatment effectiveness will be monitored.

In practice, even when armed with a comprehensive formulation, deciding where and how to intervene can be a daunting task. The more pervasive the problems are, the greater the list of possible targets. There may be multiple and conflicting perspectives amongst the management team regarding which problems are of highest priority. This is to be expected, as other impairments often accompany ADHD, either as a result of the disorder itself, or as comorbid features (7) (also see paper on ADHD comorbidities in this issue). Clinicians must consider the extent to which issues such as aggression, oppositionality, irritability, low self-esteem, academic underachievement and peer problems are present. Agreement around how such difficulties will be handled can be established at the treatment planning stage and reviewed regularly. In choosing targets for interventions, attention must be given to what the patient wishes to prioritise. Although young people with ADHD may not be the most valid witnesses to symptoms of the disorder (8), they are often acutely aware of the negative impact upon their social functioning and other aspects of daily living. Treatment choices also need to

incorporate the level of cognitive functioning and wider developmental needs (3). Finally, determining what is realistic within the confines of time, logistics, and resource is a necessity.

The options

Features of the young person's immediate environment, including the levels of organisation, structure, and positivity in the home and classroom, the types of behaviour management strategies used by their parents and teachers, and the way in which the young person is thinking about themselves are all important factors that can be used to improve the functioning of individuals with ADHD. Often, however, it is these very factors which add strain to the situation. In sometimes quite subtle and generally non-intentional ways, unwanted behaviours can be triggered, maladaptive ways of responding can be reinforced, negative thinking patterns can flow unchallenged, and unhelpful reputations can be perpetuated.

Non-drug approaches to management of ADHD aim to change this scene through reorganising the young person's surroundings, ("environmental engineering"), changing the way adults think about and approach the young person's behaviour, and modifying the way the young person thinks about and tries to control their behaviour. The strategies used to achieve these aims are varied and applied in different forms depending on the setting and child's age.

Psychoeducation and self-help materials are an important starting point and aim to help families, patients and teachers understand the child's condition and appreciate how the ADHD impacts upon various aspects of functioning. Countless sources of information and advice exist, creating a risk of "information overload". Families should be encouraged to discuss their understanding of what they are reading, and supported to cope with conflicting advice and views. The goal is to help families and other caregivers to become discerning consumers of the vast amount of materials available.

Despite being over ten years old, the text "Taking Charge of ADHD: The Complete Authoritative Guide for Parents", (9) remains a comprehensive, contemporary, and tremendously accessible resource. "Late, Lost and Unprepared: A Parent's Guide to Helping Children with Executive Functioning" (10) is a source of useful strategies for understanding and tackling the disorganisation and planning difficulties children with ADHD often display at home and at school. Treatment teams can signpost caregivers and educators to mainstream, regularly up-dated, and adequately governed internet sites, such as those provided by the Royal College of Psychiatrists (11), the National Attention Deficit Disorder Information and Support Service (ADDIS) (12), and Young Minds (13), all of which provide immensely useful information in a variety of formats.

Behavioural therapy can be a very effective way to address issues around compliance and disruptive behaviour. Critically, this approach is also designed to foster positive adult-child interactions. For parents of children with ADHD, behavioural parenting training, usually delivered in a group format, is available throughout the UK from local agencies, such as child and adolescent mental health services (CAMHS). This training is built around social learning and operant conditioning theories. It aims to teach parents strategies for rewarding positive, adaptive behaviour with positive attention, praise and other tangibles (e.g., stickers, access to activities), as well as techniques, such as ignoring and time-out, for reducing unwanted behaviour.

Many CAMHS services offer specific parenting programmes, such as Incredible Years (14,15) and Triple P, "Positive Parenting Program" (16), which are not specific to ADHD but have been shown to be effective in reducing ADHD behaviours in younger children. Parenting training based on behaviour therapy methods are recommended as first-line approaches for mild to moderate cases of ADHD in preschool children.

General parenting advice and training is also available through voluntary agencies and charity organisations. Books including "1-2-3 Magic" (17) and "The Explosive Child: A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children" (18) offer ideas for thinking about and "reframing" the child's problematic behaviour in ways that can encourage

compassion and increased understanding. These resources can support the acquisition of skills for managing ADHD-related behaviour and can be offered as stand-alone psychoeducation or as an adjunct to other behavioural therapy input.

One message that is unintended but frequently "heard" or inferred by parents when such books or parenting programmes are recommended, is that their current or historical parenting style is incompetent, inadequate, or even the cause of the ADHD itself. As part of the psychoeducation component, it must be emphasised that ADHD brings unique challenges to the tasks of parenting, and these challenges can make parenting a child with ADHD incredibly stressful (19). Treatment teams can help to normalise the experiences of parents and empower them with optimism that certain approaches to managing behaviour (i.e. increasing the clarity of expectations, increasing the frequency of positive consequences, increasing the levels of warmth and acceptance) should bring improvements in their child's behaviour. These behavioural approaches are not always the most natural. Indeed, they may be slightly different from the ones used with other unaffected siblings. Yet, they are eminently teachable and, once mastered, quite easy to apply. The consistency with which they must be applied however, can surprise and overwhelm parents initially.

Structured programmes for teachers around behaviour management for ADHD are less widely available in the UK. The ability to consult with a child's treatment team is often an essential component in helping teachers to create an optimal learning environment and to manage the child's behaviour as proactively and positively as possible. Liaison with educational professionals to promote accurate understanding of the child's condition and to facilitate effective home-school communication is an important component of non-drug management. The book "How to Teach and Manage Children with ADHD" (20) contains useful techniques and case studies, which bring the issues and strategies to life.

Finally, appreciating the extent to which teachers and other important figures in a patient's life (grandparents, coaches, employers) understand and agree with the treatment team's formulation may be important. This can have implications for levels of acceptance and general approaches to management. In some settings, diagnostic labelling (or disclosure) of an individual's difficulties is not viewed favourably. Where conflicting views exist, the aim is not to insist on agreement with the diagnosis per se. Rather, treatment teams can work towards: (a) establishing consensus on the target problematic areas, (b) securing support for the management approaches, (c) providing a space to express alternative formulations (e.g. "this child is attention-seeking; this employee is lazy"), and (d) ensuring that the various approaches to managing behaviour or environment are not counter-productive (e.g. behaviour that is rewarded in one arena is actually being penalised in another, even though it is a reasonable way to respond).

Social skills training. Individuals with ADHD often experience difficulties with friendships and are frequently rejected by their peer group (21). Young people with ADHD frequently struggle with behaviours that underpin positive peer interactions (e.g., turn-taking, sharing, responding in a non-reactive, predictable manner). Yet the evidence for the effectiveness of stand-alone social skills training (SST) as an intervention for ADHD is limited. Part of this may be due to obstacles inherent in generalising skills learned in one setting (e.g., a social skills group) and applying them in another (e.g., the classroom) (22). NICE supports a package of care that might combine parenting training (as described above), social skills training, and cognitive behaviour therapy.

Cognitive behaviour therapy (CBT). Over the last few years, interest in CBT has increased greatly, particularly because evidence of its effectiveness as a treatment of common adult psychological problems, such as anxiety and depression, is so robust. However, the research support for CBT as a treatment of ADHD in childhood is not firmly established (3) and there are few studies examining its efficacy in adolescence. In contrast, more research has been conducted applying CBT with adults with ADHD. The book "ADHD in adults: A psychological guide to practice" (23) provides a useful overview of CBT approaches. These techniques flow from their cognitive behavioural model of ADHD in adults, which critically includes concepts of success and resilience – areas at risk of being overlooked in the management of ADHD. Individuals with ADHD often battle against low self-esteem (1), and CBT can be particularly effective in this regard.

Is treatment working?

Treatment teams can work together with patients and their families to establish whether and to what extent initiation of a particular treatment package is followed by a reduction in symptoms and an improvement in functioning. Capturing change and quantifying outcome can be complex. An organisational framework, built around the five levels of outcome differentiated by Fonagy and colleagues, (4) is presented in Table 1, and includes specific questions and possible resources one might use to gather data.

Table 1: Framework for conceptualising outcome (based upon Fonagy et al, 2002)

	Level of Outcome Measurement	Focuses on	Target of assessment	Questions to ask
1	Symptomatic or Diagnostic	Core symptoms	Child's behaviour	Has the frequency or duration of the symptoms changed? (can be considered on a continuum) Does the individual still meet criteria for diagnosis? (can be considered categorical – "yes or no")
2	Adaptation	How the child functions in their environment (e.g., school, home)	Child's behaviour with respect to their ability to apply their skills and knowledge This is one-way: Child ⇨Environment	Is the child getting better at negotiating, compensating, overcoming, the obstacles created by/associated with the disorder? (These obstacles might be issues like making and keeping friends, or achieving in school)
3	Mechanisms	The cognitive and emotional capacities that are presumed to underpin symptoms and adaptation	Neurocognitive capacities	If concentration problems seemed to be getting better (Level 1), would they also do better on a psychological test designed to measure attentional skills?
4	Transactional	The interactions between a child and their environment	Interactions of child to his environment AND the reaction of the environment to the child, particularly parent-child relationships. This is two-way: Child⇦⇨Environment	How is the behavioural disposition of the child and the way he interacts with his environment affected by how those in his environment react to him, now and over the course of time?
5	Patient satisfaction and utilisation of services	On how parents and patients viewed the treatment and service they received, as well as the extent to which they are in receipt of input from other services and agencies in health, education, social, justice.	Subjective (parent and patient perspectives on experiences and acceptability of treatments) and health economics	How did this intervention look and feel from the parents and patient's perspective? Did they find the approaches acceptable? (i.e., Was the "cost" of undertaking the treatment in terms of time, effort, etc worth the "benefit" of the improvements gained?) Did their involvement with this intervention mean that they went on to require less professional input elsewhere (i.e., Did intervening now in this manner save time and money down the line?)

Conclusions

Supporting families affected by ADHD can take many different forms. Management approaches will be influenced by a variety of factors, including the age of the young person, the severity of the ADHD, and the presence of other problems. For some families, when ADHD is mild to moderate, advice after diagnosis, including self-instruction manuals and other materials based on positive parenting and behavioural techniques may be sufficient. For others, a more intensive treatment package that combines medication with non-drug approaches will be indicated.

The challenges associated with ADHD may change as individuals mature. The NICE (2009) guidance reminds treatment teams to anticipate major life changes and consider psychological treatment at these times. Transitioning from primary to secondary school, sitting national exams, moving away from home and ending a romantic relationship are just a few of life's "normative events" that have the potential to bring new stressors to a young person already grappling with the symptoms of ADHD. Non-drug approaches can be instrumental in helping individuals and their families understand the ADHD, learn new repertoires of responding, sustain positive behaviour change over time, and develop a sense of resilience and self-acceptance.

GP Comment.

What have I learned from this paper?

1. Although the main role of the GP in managing ADHD is often viewed as prescribing medication, NICE guidance clearly states that drug treatment for children with ADHD should always form part of comprehensive treatment plan that includes psychological, behavioural and educational advice and interventions. The role of the GP may need to expand to making sure that these areas are covered, in addition to following any shared care protocol in regard to prescribing.

2. Key elements of ADHD management are psychoeducation and empowerment of families. There are several valuable sources of information available including well-established books, the Royal College of Psychiatrists factsheets (see website) and support organisations such as ADDISS (Attention Deficit Disorder Information and Support Service: www,addiss.co.uk).

3. Changing the way adults think and approach a child with ADHD, together with modifying the way the young person thinks and tries to control their behaviour, may be achieved through a number of valuable approaches.

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