Attention deficit hyperactivity disorder in adults: Psychotherapy

AUTHOR: Mary V Solanto, PhD
SECTION EDITOR: David Brent, MD
DEPUTY EDITOR: Michael Friedman, MD

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: **Oct 2023.**
This topic last updated: **Oct 10, 2023.**

INTRODUCTION

Once thought to be exclusively a disorder of childhood, longitudinal follow-up studies have shown that attention deficit hyperactivity disorder (ADHD) persists into adulthood in approximately 50 percent of cases [1-6], ADHD is associated with significant impairment in adult functioning in occupational, academic, and social spheres.

This topic reviews psychotherapy for ADHD in adults. The epidemiology, pathogenesis, clinical manifestations, assessment, diagnosis, and treatment decisions in the management of adult ADHD are found elsewhere. Topics related to ADHD in children and adolescents are also found elsewhere.

- (See "Attention deficit hyperactivity disorder in adults: Epidemiology, clinical features, assessment, and diagnosis".)
- (See "Attention deficit hyperactivity disorder in adults: Treatment overview".)
- (See "Attention deficit hyperactivity disorder in children and adolescents: Epidemiology and pathogenesis".)
- (See "Attention deficit hyperactivity disorder in children and adolescents: Clinical features and diagnosis".)
- (See "Attention deficit hyperactivity disorder in children and adolescents: Overview of treatment and prognosis".)

- (See "Attention deficit hyperactivity disorder in children and adolescents: Treatment with medications".)

OVERVIEW OF MANAGEMENT OF ADHD IN ADULTS

We typically prefer combined treatment including pharmacologic management and cognitive-behavioral therapy (CBT), rather than either alone, as the first-line treatment for adults with attention deficit hyperactivity disorder (ADHD). However, in all cases, we discuss treatment options with the patient and account for patient preference. For example, if an individual prefers treatment with either modality as monotherapy, we typically agree to begin treatment with their preferred modality and follow the individual closely to decide whether monotherapy with either treatment is sufficient to improve the person's symptoms and functioning. (See "Attention deficit hyperactivity disorder in adults: Treatment overview", section on 'Preference for combination medication and CBT'.)

Medication and CBT are thought to be complementary in their effects. While stimulant medication (methylphenidate and amphetamine) and to a lesser extent, nonstimulant medication (atomoxetine) can reduce the core symptoms of ADHD, they often insufficiently address difficulties in executive self-management with respect to time and organization [7]. Additionally, problems with and social and emotional self-regulation often lead to continued distress and impairment for adults with ADHD [8]. CBT targeting executive dysfunction helps to develop adaptive skills for time management, organization, and planning. Therapy may also target comorbid disorders that may accompany ADHD.

Our preference is based on trials supporting combination modality as compared to monotherapy with either. Medication clearly augmented the benefit of CBT in one randomized, controlled, adequately powered study [9]. Five studies have assessed the benefits of adding CBT to medication, with four studies reporting positive results [10-13] and one study reporting negative results [14]. These results, taken together, strongly suggest that the combination of medication and CBT is better than either one alone. Combination treatment for ADHD is discussed further elsewhere. (See "Attention deficit hyperactivity disorder in adults: Treatment overview", section on 'Preference for combination medication and CBT'.)

CBT TARGETING EXECUTIVE DYSFUNCTION

In most cases, our preferred psychotherapy for the treatment of attention deficit hyperactivity disorder (ADHD) in adults, is treatment with cognitive-behavioral therapy targeting executive

dysfunction (CBT-EF). In contrast to CBT in general (eg, that does not target executive functioning), CBT-EF focuses on organization, prioritizing tasks, and planning rather than irrational cognitions that engender anxiety or depression (eg, overgeneralization, discounting the positive, all-or-none thinking). (See "Attention deficit hyperactivity disorder in adults: Epidemiology, clinical features, assessment, and diagnosis", section on 'Executive dysfunction' and 'Prevalence of executive dysfunction' below and "Overview of psychotherapies", section on 'Cognitive and behavioral therapies' and 'Content' below.)

In our clinical experience, psychotherapies that focus intensively on one area of dysfunction (eg, executive dysfunction emotional dysregulation or attentional focus) are more likely to bring about meaningful and lasting changes in functioning than psychotherapies that attempt to address a broad array of dysfunctions.

Address substance use disorder prior to treatment — Our preference is to refer individuals with ADHD and an active substance use disorder for treatment of the substance use disorder prior to referring for psychotherapy for executive dysfunction. Our rationale is that substance use disorder may limit compliance with and response to psychotherapy (see "Attention deficit hyperactivity disorder in adults: Treatment overview", section on 'Substance use and alcohol use disorder'). Patients concomitantly abusing substances were generally excluded from the trials of CBT for ADHD. In the absence of data, therefore, we rely on our clinical judgment that it is more likely that substance abuse will compromise the effectiveness of the treatment, which requires motivation, focus, and effort.

Administration — We generally provide 12 to 15 sessions of CBT targeting executive functioning to impart skills or strategies to compensate for deficits in executive functioning or self-management. Participants complete assignments at home between sessions to help foster generalization of new adaptive behaviors and beliefs to activities of daily life. For example, practicing time estimation for daily life activities, prioritizing and scheduling tasks in a planner for a day or week, and planning longer term projects using a flow chart.

Format and availability — CBT programs targeting executive functioning were initially developed for individual [15] or group formats [16]; however, the group format can be adapted to the individual format [16]. Our choice between individual or group treatment is guided by consideration and balance of the following:

Potential advantages of a group format include:

- Mutual support and encouragement
- Reducing of the stigma of an ADHD diagnosis
- Positive modeling

- Vicarious reinforcement of successful strategies
- Cost-effectiveness

Contraindications for group treatment:

- Significant anger management problems (which may alienate other group members)
- Active drug or alcohol abuse (which would have priority for treatment)
- Other severe psychopathology (for which another treatment would have priority)

The principal advantage of individual therapy is the opportunity to tailor treatment to the individual, for example, by:

- Selecting certain modules for emphasis and omitting others
- Proceeding at a faster or slower pace than the group
- Allowing opportunities to address the patient's resistance
- Allowing for flexible scheduling and privacy

There have been no head-to-head trials comparing the efficacy of individual versus group delivery.

The availability of CBT-EF focusing on executive dysfunction varies, though is most likely to be available at large academic medical centers. Therapists specializing in CBT may be found in the database of members of the Association for Behavioral and Cognitive Therapies. Individual and group psychotherapy rendered by licensed psychiatrists, psychologists, and social workers are typically covered by insurance in the United States.

Content — Manualized CBT programs have been developed to guide clinicians in the delivery of these treatments [15-17]. Deficit areas addressed include:

- Difficulty keeping track of tasks and activities
- Procrastination
- Difficulty prioritizing
- Disorganization
- Poor short and long-term planning

Therapeutic strategies used in these CBT programs to address these deficits include [15,16]:

- Training in specific skills:
  - Systematic use of tools such as a planner, timer, and task list [15,16]
  - Breaking down difficult tasks into manageable parts

- Prioritizing tasks
- Developing an enhanced awareness of time (eg, how long things take; how much time remains before a deadline), which can be facilitated through activities such as self-timing exercises and daily time-logging
- Setting up and maintaining organizational systems [16] (eg, for filing papers)
- Maintaining effort toward long-term goals by increasing salience of long-term rewards [16]

- Self-monitoring can be a useful basis for self-reinforcement when gradual improvements are made in applying skills and modifying behavior. Monitoring may draw on checklists or logging of application of new skills.
- Self-instruction – The internalization of new mental and behavioral habits is encouraged by the use of adaptive internal speech that cues desired behavior [16].
- Cognitive reframing to address cognitive distortions that generate anxiety, perfectionism, demoralization, and depression [15,16].

Monitoring — We use ADHD symptom checklists to monitor symptoms during treatment. Typically, this is done once during the course of the 15-week treatment. Additionally, the checklist lists the problems and corresponding strategies presented and discussed during the treatment and asks the participant to rate the helpfulness of each strategy. This information, compiled across group members, is used to identify the strategies that need more intensive focus or review. We also find it useful to get input from other informants who are familiar with the patient as well as real world collateral information (eg, job performance, grades).

We typically use rating scales assessing the severity of symptoms and domains as a supplement to the clinical interview to guide the initial diagnostic assessment. For all individuals we use the Conners' Adult ADHD Rating Scale.

For individuals with prominent executive dysfunction we also administer the Barkley Deficits in Executive Function Scale (table 1) to identify symptomatic targets for CBT and to monitor their change over time [18]. The scale includes subscales measuring:

- Self-management to time
- Self-organization/problem-solving
- Self-motivation
- Self-restraint

- Self-regulation of emotions

Further discussion of rating scales used in the diagnosis and treatment of ADHD in adults can be found elsewhere. (See "Attention deficit hyperactivity disorder in adults: Treatment overview", section on 'Monitoring for symptomatic improvement' and "Attention deficit hyperactivity disorder in adults: Epidemiology, clinical features, assessment, and diagnosis", section on 'Rating scales'.)

Adjunctive interventions for marital or family concerns — We use other psychotherapeutic interventions in addition to CBT (eg, marital therapy, couples therapy, or family therapy) where symptoms lead to marital or relationship discord. Additionally, we are sure to educate all adults with ADHD about the elevated risk for substance use disorder and encourage them to drink in moderation or abstain. (See "Overview of psychotherapies", section on 'Couple therapy' and "Screening for unhealthy use of alcohol and other drugs in primary care".)

Rationale for our preference — We suggest CBT targeting executive dysfunction rather than other forms of psychotherapy. Different forms of psychotherapy have not been directly compared in trials. However, the evidence supporting use of CBT targeting executive dysfunction is more robust than that for other therapies. If CBT targeting executive dysfunction is unavailable, supportive psychotherapy and psychoeducation may help address symptoms.

Prevalence of executive dysfunction — Executive dysfunction is highly prevalent among adults with ADHD and is associated with significant academic and occupational impairment [18-20]. The great majority of adults with ADHD have difficulty in some aspect of everyday executive function, particularly with respect to time management and efficiency. Clinical trials have supported the use of CBT targeting executive functioning for adults with ADHD [21-23].

In a meta-analysis (eight trials, n = 351) the effectiveness of CBT in reducing symptoms of ADHD was examined [23]. Results of the meta-analysis appear to support CBT as superior to wait list control with a large effect size (standardized mean difference 0.76, 95% CI 0.21-1.31). Additionally in trials that compared CBT with “active control” groups (ie, a condition, such as a support group, to control for the nonspecific therapeutic effects of treatment) CBT was found to be superior with a small to moderate effect size (standardized mean difference 0.43, 95% CI 0.14-0.71).

With the exception of baseline severity, which appears to be associated with a better response to treatment in one study [22], ADHD symptom (eg, subtype) sociodemographic (eg, age, gender) and clinical characteristics (eg, comorbidity) of the patients receiving CBT do not appear to be associated with patients’ clinical response in limited research to date. The number of

home exercises completed by patients was a significant predictor of the benefit that patients received from the program [22].

Prevalence of co-occurring anxiety or depression — Other comorbidities (eg, an anxiety disorder or depression) may be secondary to ADHD-related impairment, and unless severe enough to limit benefits of cognitive therapy, we typically do not delay treatment with CBT. CBT, tailored for anxiety or depression, is also a potential treatment for those disorders.

Limited data and our clinical experience tell us that psychotherapy for ADHD may serve to reduce comorbid symptoms as well as address executive dysfunction. Co-occurring anxiety or depression may appear closely related to dysfunction resulting from ADHD.

In a meta-analysis including 20 randomized controlled trials of CBT, of which 5 had active controls, and 12 uncontrolled pretest/posttest comparisons, CBT significantly improved anxiety and depression symptoms, as well as quality of life and emotional dysregulation [24]. Furthermore, these changes were predicted by the reduction in ADHD symptoms, suggesting a cause-effect relationship. However, treatment was less effective for depression and anxiety outcomes when compared with active controls than when compared to wait-list controls or treatment as usual, suggesting that remediation of internalizing symptoms is a nonspecific result of therapy.

OTHER INTERVENTIONS

Other forms of psychotherapy such as adapted dialectical behavior therapy (DBT) or mindfulness-based cognitive therapy (MBCT) have been developed to address specific symptoms or deficit foci. There is not strong support for any of these other psychosocial approaches (with the possible exception of mindfulness) as beneficial for treatment of attention deficit hyperactivity disorder (ADHD). We do not routinely use these interventions due to limited support; however, we occasionally use mindfulness as a supplemental strategy for treatment of executive dysfunction in ADHD. These are discussed below.

Reasoning & Rehabilitation 2: A CBT program — Other cognitive-behavioral therapy (CBT) programs have been developed to address multiple symptomatic or deficit targets of ADHD with multimodal interventions. For example, Reasoning & Rehabilitation 2 (R&R2) seeks to address multiple problem areas including attentional control, memory and planning, problem solving, emotional control, and social skills. In a trial, 95 adults with ADHD, who were treated with medication, were randomly assigned to 15 session R&R2 CBT versus treatment as usual [10], which is described as including pharmacologic and nonpharmacologic treatments. At the

end of treatment, patients who received CBT experienced reduced ADHD symptoms (eg, Kiddie-Schedule for Affective Disorders and Schizophrenia [ADHD section], Clinical Global impression scale, Barkley Current symptoms Scale) compared with the group receiving treatment as usual; this difference was maintained at three-month follow-up. The effect size (0.55) was modest for a trial that did not control for the nonspecific effects of psychotherapy.

Mindfulness/mindfulness-based cognitive therapy — Mindfulness, a purposeful, nonjudgmental attention to the present moment, is developed through meditation and other practices. In the teaching of mindfulness, an individual is guided to become aware of incoming thoughts, feelings, and sensations, to observe and accept them without judgment, and then to disengage from them. Originally inspired by Asian teachings, training in mindfulness has been applied to patient stress, anxiety, pain, and other problems [25]. MBCT combines the clinical application of mindfulness training with elements of cognitive training. Early research showed promise of MBCT as an intervention to improve focus for people with ADHD [26,27]. Results of more recent studies, however, have been mixed with positive findings reported in comparison with treatment as usual [28,29], but not when compared with an active control condition [30,31]. The use of MBCT in the treatment of unipolar depression is discussed elsewhere. (See "Unipolar major depression: Treatment with mindfulness-based cognitive therapy", section on 'Theoretical foundation'.)

Adapted dialectical behavior therapy — DBT, originally developed to treat borderline personality disorder, does not appear to be useful in the treatment of adult ADHD. DBT, as adapted for adult ADHD, [32,33], is administered to groups over 13 weekly sessions in modules that address a broad array of difficulties. These include emotional awareness and regulation; mindfulness, organization; stress management; interpersonal effectiveness; depression; substance use disorders; as well as behavior analysis, which involves identifying antecedents and consequences of problematic behavior and alternate problem-solving strategies. Randomized trials have shown negative findings to date. It may be the case that, although DBT is well-conceptualized as a potential intervention for ADHD, the very multiplicity of topics addressed in the context of only 13 weekly sessions militates against the efficacy of any one target of the intervention, necessitating a longer period of intervention. [34,35]. (See "Borderline personality disorder: Psychotherapy", section on 'Efficacy of psychotherapy'.)

Neurofeedback — Neurofeedback does not appear to be effective in the treatment of adults with ADHD. Neurofeedback involves training to enhance self-regulatory capacity over brain activity patterns (via electroencephalography) and, theoretically, over mental states. (See "Attention deficit hyperactivity disorder in children and adolescents: Overview of treatment and prognosis", section on 'Other alternative therapies'.)

Several studies of neurofeedback have been conducted with adults with ADHD, with mixed results. Two studies reported no differences in effectiveness vis a vis ADHD symptoms between neurofeedback and a sham neurofeedback condition [36,37]. A third study included no control condition but reported high rates of response, with 70 percent showing improvement of 50 percent in ADHD symptoms and 55 showing remission [38]. Further research is necessary to identify the bases of the differences in outcome among these studies.

SUMMARY AND RECOMMENDATIONS

- **Overview of management** – We typically prefer combined treatment including pharmacologic management and cognitive-behavioral therapy (CBT), rather than either alone, as the first-line treatment for adults with attention deficit hyperactivity disorder (ADHD). While medication may reduce the core symptoms it often insufficiently addresses difficulties in executive self-management, maladaptive cognitions and behaviors, and social and emotional self-regulation. (See 'Overview of management of ADHD in adults' above and 'CBT targeting executive dysfunction' above.)

- **CBT targeting executive dysfunction** – We suggest treatment with CBT targeting executive functioning rather than other forms of psychotherapy for most adults with ADHD (**Grade 2C**). (See 'CBT targeting executive dysfunction' above.)

  - **Address substance use** – Our preference is to refer individuals with ADHD and an active substance use disorder for treatment of the substance use disorder prior to referring for psychotherapy for executive dysfunction. Our rationale is that substance use disorder may limit compliance with and response to psychotherapy. (See 'Address substance use disorder prior to treatment' above.)

  - **Administration** – We generally provide 12 to 15 sessions of CBT targeting executive functioning to impart skills or strategies to compensate for deficits in executive functioning or self-management. (See 'Administration' above.)

  - **Monitoring** – We use ADHD symptom checklists such as the Barkley Deficits in Executive Function (table 1) scale to monitor symptoms before and after treatment. We also find it useful to get input from other informants who are familiar with the patient as well as real world collateral information (eg, job performance, grades). (See 'Monitoring' above.)

- **Other psychotherapy or interventions** – Other forms of psychotherapy including Reasoning & Rehabilitation 2, mindfulness-based cognitive therapy, dialectical behavior

therapy, and neurofeedback have been developed to address specific symptoms or foci. As limited data support their efficacy, we typically do not use these treatments. (See 'Other interventions' above.)

Topic 82780 Version 20.0

→