Cognitive Behavioral Therapy for Adult Attention-Deficit Hyperactivity Disorder

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ADHD in adulthood is one of the most highly prevalent psychiatric conditions, affecting 3–4 % of adults in the USA [1]. In the past, it was generally assumed that children with ADHD "grew out of" the disorder. However, follow-up studies have demonstrated that symptoms and impairment persist into adulthood in approximately two-thirds of childhood cases [2]. ADHD occurs more frequently in boys than girls, and this gender difference has been found to persist into adulthood [1]. Adults with ADHD have been found to have impairment broadly in academic, behavioral, and social domains [3]. Specifically, adults with ADHD may struggle in areas such as work performance, marital relationships, finance management, and health behavior engagement [2]. A higher frequency of driving accidents has also been found in adults with ADHD [2].Psychiatric comorbidity is common in adults with ADHD [1]. The most commonly observed comorbidities were mood disorders, anxiety disorders, substance disorders, and impulse control disorders [1].

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The present chapter provides an overview of the diagnostic features and clinical presentations of adults with ADHD, an overview of the cognitive behavioral therapy, developed through a series of research studies at Massachusetts General Hospital, and a case example to illustrate the use of the techniques described.

The core feature of adult ADHD as detailed in the DSM-5 [4] is "a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development," as characterized by symptoms of inattention and/or symptoms of hyperactivity and impulsivity. There can be two types: a predominantly inattentive type and a predominantly hyperactive/inattentive type. The predominantly inattentive presentation is diagnosed when an individual endorses at least five out of the nine symptoms of inattention (e.g., "often has difficulty sustaining attention in tasks or play activities," "often has difficulty organizing tasks and activities"). The predominantly hyperactive/impulsive presentation is diagnosed when an individual endorses at least five out of the nine symptoms of hyperactivity and impulsivity (e.g., "often fidgets with or taps hands or feet, or squirms in seat," "often has difficulty waiting his or her turn"). A diagnosis of ADHD combined presentation is made when individuals endorse at least five symptoms of inattention and at least five symptoms of hyperactivity/impulsivity. It is notable that the criteria for the diagnosis of ADHD are the same for adults and

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children, with the exception of the number of symptoms (5/9 are needed for each presentation in adults and 6/9 are needed for each presentation for children and adolescents). In order for the diagnosis to be made, it is also required that several inattentive or hyperactive symptoms present before the age of 12 years, and that several inattentive or hyperactive-impulsive symptoms are present in two or more settings [4]. Additionally, it is required that there be clear evidence that the symptoms interfere with functioning and do not occur exclusively during the course of schizophrenia, or another psychotic disorder, and are not better explained by another mental disorder [4].

13.1 Treatment

Although stimulants and other medications have been shown to reduce core neurobiological symptoms for many adults with this disorder, many adults with ADHD continue to experience significant residual symptoms while on medications, or cannot tolerate the medications due to side effects [5]. Even those who do respond to medications typically have significant continued symptoms. In most medication treatment studies, for example, a "responder" is considered someone with a 30 % reduction in symptom severity [6]. As with any set of symptoms, a 30 % reduction is not a 100 % reduction, and depending on severity before treatment, significant problems can continue even after a 30 % symptom reduction [6].

As a result, many adults with ADHD may require psychosocial treatment. Traditionally there have been relatively few resources available to clinicians. In the last decade; however, several treatment approaches have received empirical support [7–9].

The approach we have developed [10, 11] is one of the only individual psychosocial treatments for adult ADHD to have empirical support, demonstrated by randomized controlled trials. Though described in a more detailed way in a subsequent section, the treatment mainly focuses on core compensatory executive skills training and adaptive thinking. To date, we have conducted two randomized controlled trials (RCTs) of this intervention in adults. The first study was a preliminary one, focused on adults with ADHD who were already receiving medication treatment, but still experiencing significant residual symptoms. Compared to continued medication treatment alone ($n=15$), adults who received the CBT intervention ($n=16$) achieved significant reductions in self-reported and independent evaluator (IE)-rated ADHD symptoms.

The second study [8] was a full-scale efficacy trial, of 86 adults with ADHD, also on medications but still experiencing significant residual symptoms. The participants were randomly assigned to receive CBT ($n=43$) or an active skills-based comparison condition, relaxation plus educational support (RES; $n=43$). We found that participants receiving CBT achieved lower IE-rated posttreatment scores on the Clinical Global Impression scale (CGI [12]) and the ADHD rating scale [13, 14] compared with participants receiving RES, and there were more responders in the CBT group than the RES group based on both CGI and ADHD rating scale results. These gains were maintained at 6- and 12-month follow-up.

Other investigators have examined CBT as well. For example, Solanto et al. [9] conducted a RCT of her group "metacognitive" therapy (MCT) in 88 adults with ADHD, comparing it to supportive psychotherapy. Forty-nine subjects were on medications and 39 were not. She found that MCT was significantly superior on the attentional symptoms of ADHD. Rostain and Ramsay [15] conducted an open trial of CBT plus medication in 43 adults who had been diagnosed with ADHD. They found that participants showed significant reductions in clinician-rated ADHD symptoms, with a large effect size at posttreatment. Thus, an emerging body of evidence suggests that CBT is useful in treating adult ADHD. We will describe our treatment in detail below, and provide a case example to demonstrate how the techniques can be put into practice.

13.1.1 Assessment

As is true for all CBTs, the process should start with a clinical assessment to obtain information about ADHD symptoms, as well as comorbid conditions, psychosocial history, family history,

and medical history. There are a number of measures that are commonly used to assess ADHD symptoms. For example, the self-report Current Symptoms Scale (CSS [16]) can be used both to assess treatment-related change in symptoms over time and as part of an initial evaluation. The *CSS* consists of the 18 *DSM-IV* inattentive and hyperactive-impulsive symptom items, worded in the first person and with some wording modified to fit adults (e.g., "playing" changed to "engaging in leisure activities"). Patients rate each symptom on a 4-point Likert scale (Never or Rarely, Sometimes, Often, or Very Often) scored 0–3. Thus, severity scores on the CSS can range from 0 to 54 across all symptoms. Next, patients indicate the age the onset for endorsed symptoms. Finally they rate how often these symptoms have interfered with functioning in ten areas of life.

Another commonly used measure is the Adult ADHD Self-Report Scale (ASRS [13]; World Health Organization). The ASRS is an 18-item self-report scale developed by the World Health Organization as a screening tool for ADHD in adults. The ASRS comes in two versions: a short screening version of six items (contained in Part A of the scale) and a full 18-item version containing content from all *DSM-IV* symptoms (Parts A and B). The ASRS has a growing body of literature supporting its reliability and validity and is available online at no cost and has been translated into many different languages.

13.1.2 Description of CBT for ADHD in Adults

Our CBT for ADHD in adults follows a modular approach and is described in more detail in our published therapist guide and client workbook entitled "Mastering your adult ADHD" [10, 11]. There are three "core modules" that we recommend administering to all clients and two optional modules. The core modules are psychoeducation and organizing/planning, coping with distractibility, and adaptive thinking. The optional modules are applying the skills to procrastination and involvement of a partner or spouse. Below, we provide a brief description of each module.

13.1.2.1 Psychoeducation and Organization/Planning

This module typically spans four sessions and involves orienting the client to a CBT model of treatment, providing psychoeducation about ADHD in adulthood, and training the patient in organization and planning skills. The therapist first orients the client to the CBT model which posits that the client has some preexisting core neuropsychiatric impairments, including deficits in attention and self-regulation (see Fig. 13.1; [17]). The model also assumes that individuals have a history of failure, underachievement, and relationship difficulties and have not learned compensatory strategies. Further, the model states that individuals may have developed negative thinking patterns and may be experiencing mood disturbances, including feelings of depression, anxiety, guilt, or anger. The model further posits that all of these factors, taken together, lead to functional impairment. The therapist goes on to explain that the treatment will focus on addressing these issues by teaching compensatory strategies as well as skills to change the negative or unhelpful thinking patterns. The therapist explains that the treatment is designed to review the skills and help the person use them long enough that they become new "habits."

We ask clients to articulate specific goals for the treatment. Often, the goals include things like "to keep my home more organized," "to reduce procrastination," and "to use my time more efficiently." By having the client set goals, the therapist is able to tailor the treatment to address these specific goals, and it also makes the desired results more tangible for the client, thus enhancing motivation. For some clients, the thought of changing long-standing behavior patterns is extremely difficult. We include an exercise drawn from the motivational interviewing literature in the orientation session—having the client list the pros and cons in the short term and the long term of changing behaviors [18]. By doing this, clients are able to remind themselves of the long-term pros of changing behaviors, yet also understand why the short-term cons often pose challenges to behavior change.

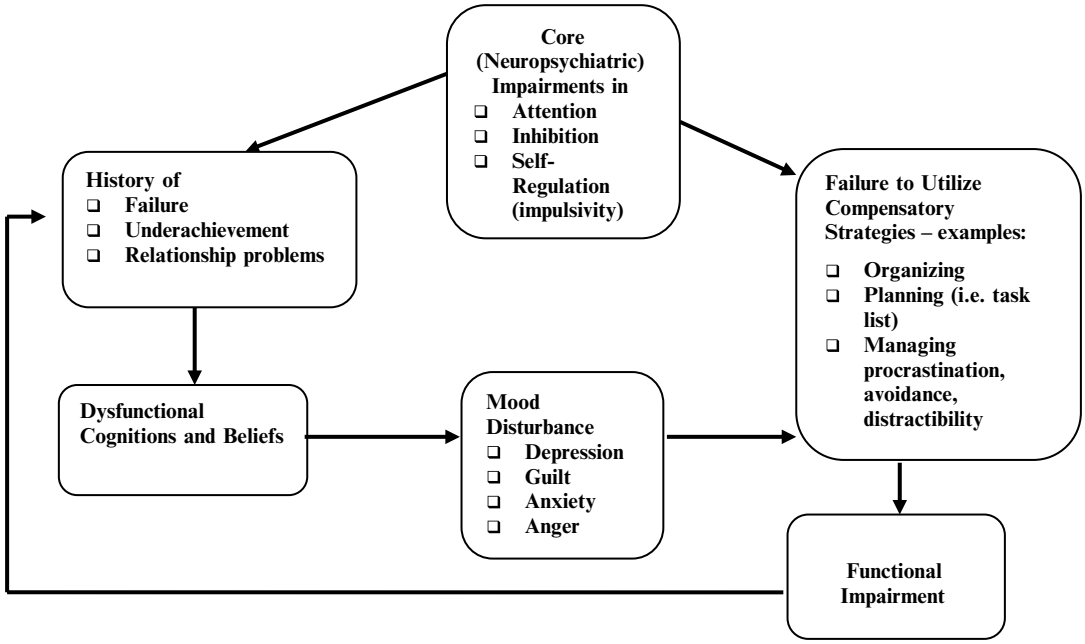

Fig. 13.1 The CBT model, which posits that the client has some preexisting core neuropsychiatric impairments (originally published in [17])

The first set of skills in the organization and planning module is development and regular use of a calendar and task list system for appointments, schedule, and "to-do" items. We consider the calendar and task list the foundation for subsequent skills and central to the entire treatment. The therapist takes some time to understand the system that the client is currently using (if he or she is currently using a system) and also what type of system might be most comfortable for the person. For example, if the individual is currently using a smart phone or tablet computer for other things, he or she might do well with using this device to keep track of tasks and appointments. On the other hand, if the individual is uncomfortable with technology, it might make more sense to start off with a paper system and possibly move to a more technologically advanced system later.

A workable calendar and task list system is the foundation for the remaining interventions because, to use other skills in the treatment, clients must first become aware of (1) what they have to do and (2) when they need to do it. It is rare for clients to report that they have no system at all. However, many clients either have a system that they do not use regularly or they have many different systems, such that they don't know where to look to find out what they need to do or where they need to be, thus, a therapist may often need to help the client eliminate some of the systems so that he or she is using a single calendar and a single task list. The therapist should emphasize the importance of looking at the task list every day for a long enough period of time that it becomes a habit. Many clients report that they make a task list, but then never refer back to it. Some report that they find looking at the task list upsetting and overwhelming because it can be a reminder of everything that they have to do. They may look at the list, feel pressure to do everything right away, and then avoid key tasks altogether. The therapist needs to make the point that the goal of the task list system is for the client to have the maximal control that they can in the situation. The daily and necessary act of looking at the task list is distinct from the internal interpretation that seeing what one has to do means that they should do everything right then. The goal of

the task list is simply to make clients aware of the possible ways they could spend their time, giving them the ability to choose whether or not to do something. The alternative, not looking at the task list on a daily basis, can cause the consequence of unpredictable and uncontrollable stressors, with forgotten tasks and deadlines. When clients have multiple long-term tasks, we often suggest that they keep a "master list" of longer-term projects and tasks. In addition to their daily list of things that they hope to accomplish on any given day. It is important to reassess the daily task list at the end of each day and move any items that have not been completed onto the next day's daily task list.

Prioritization. Once the client and therapist have agreed on a format for keeping track of appointments and tasks, the next skill that is taught is that of prioritization. Clients are taught to assign ratings of A, B, and C to their daily tasks. An "A" task is one that is very important and often has a deadline such that it must be completed within the short term. A "B" task is defined as a task that is important, but perhaps doesn't have the same level of urgency. An example of a "B" task might be completing one step of a longer-term project. A "C" task is defined as a task that may be very specific and easy to do, but are of the lowest importance. Examples of "C" tasks might be things like making a hair appointment, dropping off the dry cleaning, checking emails, etc. The therapist talks with the client about the fact that, once the priority ratings are set, the client should try to be "strict" with himself or herself and complete the A task or tasks before the B task(s), and the B task(s) before the C task(s). The therapist can use self-disclosure to validate the tendency to want to come into work and start checking off items from the task list, which likely would involve doing C tasks (because they are concrete and often easily completed). However, if one does this regularly, there is the danger that the more important tasks will never be completed.

Breaking down tasks/problem-solving. As part of the organization and planning module, clients are taught skills to deal with tasks that end up getting pushed off from day to day or week to week. Clients are asked to bring in an example of one of these tasks and then the therapist and the client take some time to examine whether the task is simply "too large" and overwhelming or if the client does not have a clearly articulated solution in mind. When the individual either feels overwhelmed by the task, or does not really know how to approach it, avoidance is often the result. Avoidance of difficult or overwhelming tasks often make the individual feel better in the short term, but can cause problems in the long term.

If the therapist and client decide that a task the client is avoiding is simply too large, the therapist presents options for breaking the task down into manageable chunks. A "manageable chunk" is defined as something that is possible to complete on 1 day or in one sitting. Often, clients will have enormous tasks on their lists, such as buy new house or apply to graduate school. Because these tasks have many different steps, often the client will look at the task, feel overwhelmed, and decide to put it off until a later time. If, however, the client can break the task down into small steps, he or she is much more likely to try to complete that single step. For example, if the client has "buy new house" on the list, it may stay on the list for many months. However, if the item is "call realtor," it is much more likely that he or she will complete the task. The therapist talks with the client about different ways to break tasks down into chunks—by setting a specific amount of time that he or she will work on the task or by articulating one small step. Often, the longer that the task has been avoided, the smaller the initial step needs to be.

Another skill that is taught in the organization and planning module is problem-solving. This involves getting the client to articulate the problem that needs to be solved (e.g., I need to figure out how I am going to get to the airport on Friday), brainstorm about all possible solutions that he or she can think of, evaluate the pros and cons of each solution, and then assign a rating to each solution. It is important to remind the client to include "leaving things as they are now" as a possible solution so that the pros and cons of this can be evaluated. When a client does not take a

problem-solving approach, this solution ends up being the default result of his or her inaction and so should be evaluated along with other potential courses of action. In particular, examining the pros of inaction can help the patient identify barriers that may be keeping him or her "stuck" in the current avoidance pattern. It sometimes seems like a simple exercise, but clients often report that seeing the "data" spelled out can be incredibly useful. After going through the whole list of possible solutions, the client is able to look at the problem-solving worksheet and a clear solution emerges. At other times, the result is that there are a number of possible solutions, none of which are exactly perfect. The therapist then works with the client to choose a "good enough" alternative, and figure out how to implement the chosen solution.

Organizing papers or other materials. The final skill set taught in the organization and planning module has to do with the organization of "stuff." This was originally conceptualized as the organization of papers and files, but, in this increasingly digital age, we now conceptualize this as including both actual objects/papers and electronic files. The therapist adopts a flexible approach with this session, first ascertaining the needs of each individual client. Sometimes, clients do need help with organizing their paperwork, desk, bills, or closets. At other times, individuals need help with keeping track of electronic files, emails, or other digital items. The goal is for the individual to develop a system that will allow him or her to file his or her items so that they can be easily retrieved at a later point in time. The therapist asks the client to use the "OHIO" (only handle it once) method of dealing with items. The concept behind this method is that an item is sorted into a category (e.g., "file," "shred," "recycle," "donate," etc.) immediately. The client is instructed to only handle each item once and not put any items into the "I will deal with this later" category. Each item should land in its final destination after the sorting process. The strategy of breaking a large task down into small steps can often be very useful in the sorting process. For example, if the individual has many boxes full of papers, it is unlikely that they would be successful if they had "go through papers" on their daily task list. However, if they had "go through 20 papers," they would be much more likely to complete the task. The therapist helps the client to develop categories for sorting and filing papers. The same strategy can be used with electronic files.

13.1.2.2 Distractibility

Commonly, clients with ADHD report that they are unable to complete tasks because other, less important, tasks or distractions get in the way. We begin this module by determining a baseline length of time that the client can hold his or her attention on any one, relatively nonstimulating activity. Once accomplished, problem-solving skills learned in the previous module are employed to break the tasks into units that fit within this amount of time. If distracted during the time when working, clients are taught to write down the distraction so that they can deal with it in a systematic way when the piece of the task is complete. This procedure, the "distractibility delay," is adapted from similar techniques used in anxiety management and worry control procedures (see [19]). By writing the distraction down, rather than dealing with it in the moment, clients are able to refocus on the task at hand without worrying that they will forget about the other task and not complete it later. By increasing the time period between when an individual thinks of a distraction (e.g., "I should go online and look at information about cruises to Alaska") and when he or she acts on it, the individual is more likely to decide that action does not actually need to be taken on that distraction in the short term. When using the "distractibility delay," the client is asked to set a timer for the length of his or her "attention span." While the timer is running, the client is told to work on the designated task, and, if a distraction pops into his or her mind, he or she should write it down and return to the task at hand. Once the timer goes off, the individual looks at the list and then sorts the distractions into categories—"do now"; "put on list for later"; or "distraction, forget about it."

In the distractibility module (two sessions), clients are also taught cue-control procedures to

cue awareness of whether one is on task. Clients are taught to use a phone, watch, or other devices to beep at certain intervals and to use colored dots as visual cues on distracting objects. Whenever the alarm sounds or they see a colored dot, participants are instructed to assess whether they have been distracted from the main task at hand, and, if so, to return to that task. This module involves teaching the client techniques for scheduling breaks after he or she has completed a chunk of work, reducing external environmental distractions (e.g., Internet, telephone, window), and to develop specific "homes" for necessary items such as keys, wallet, computer, and phone so as to avoid misplacing these important objects.

13.1.2.3 Adaptive Thinking

The cognitive restructuring procedures used in the adaptive thinking module are principally those used by Beck [20] except that they account for specific skills deficits due to ADHD. As detailed by McDermott [21], cognitive restructuring training in this population must account for the tendency for clients with ADHD to use maladaptive cognitive techniques to avoid "downward spirals" in thinking. A downward spiral is when someone's maladaptive thoughts quickly hit on overly negative core beliefs. We have found that there are two areas where cognitive restructuring is quite relevant for our clients with ADHD. One area where cognitive restructuring can be useful is in the area of low self-esteem and negative predictions about one's ability to succeed in the future. The other area in which cognitive restructuring can be helpful with these clients is with "overly positive" thinking, likely a strategy to avoid downward spirals. Often, adult clients with ADHD will overestimate their ability to accomplish a task or complete it within a specified time and then have negative thoughts about themselves after they find that they have not been able to accomplish their unrealistic goals. Mitchell et al. [22] found that ADHD symptoms in a college sample predicted endorsement of "ADHD-specific maladaptive thoughts," many of which were overly optimistic in nature. Adults with ADHD may overestimate their performance in domains in which they are actually less skilled than others [23]. Therefore, work with these clients involves identifying both the overly negative and the overly positive thoughts in order to set more realistic goals, and cue skill use rather than avoidance. The process involves having complete thought records either on paper, on a computer, or using a smartphone "app," and then working on developing more realistic, effective, and helpful rational responses to replace problematic automatic thoughts that have been identified.

13.1.2.4 Additional Modules

Procrastination. The first additional module (one session) involves the application of skills to the topic of procrastination. The client is asked to identify a task that he or she has been procrastinating on and then to answer some questions regarding why he or she may be putting off this particular task. Often, the procrastination is the result of the task feeling too large and overwhelming, in which case the skill of breaking down large tasks into smaller chunks is applied. At other times, the individual truly does not know the "solution" to the problem and, therefore, does not know where to start in completing the task. In that situation, the client is asked to complete the problem-solving worksheet to determine the best solution to the problem. The client is also asked to write out his or her thoughts about the task so that client and therapist can look for unrealistic or unhelpful thinking patterns that may be getting in the way of task completion.

Involvement of a spouse or partner. If a client has a spouse or close partner, it is strongly suggested that the individual participates in this optional single session module. The goal of the session is to provide the spouse or partner with education about ADHD. Often, significant others may become frustrated with the individual with ADHD, and may think that the individual is lazy or stubborn, which can lead to relationship stress. If the partner is more aware of the difficulties that are caused by ADHD, he or she is often more supportive and understanding, which reduces stress and can help with the success of the treatment. At this session, the therapist facilitates

discussion between the partners regarding the treatment strategies and how the non-ADHD partner can support the use of strategies at home. As with many CBT treatments, the use of family members can serve as "treatment extenders" and enhance generalization of skills outside of the therapy sessions.

13.1.2.5 Relapse Prevention

As with many CBT protocols, the final session of the treatment focuses on relapse prevention strategies. The therapist reviews all of the different skills and asks the client to rate each one in terms of usefulness, and also makes notes about how he or she plans to continue to apply the skills. The client is given a "troubleshooting guide" that he or she can pull out when he or she is encountering difficulties, and the therapist instructs that client to engage in monthly self-sessions in which the client checks in with himself or herself on skills use and reminds himself or herself of the skills to be practiced. Again, as is common in CBT, the therapist emphasizes that "slips" are common and reviews strategies that the client can use to help himself or herself get back on track rather than giving up at the first sign of symptom reemergence.

The following is a case example illustrating many of the principles and techniques outlined in this chapter.

13.2 Case Example

Dave is a 45-year-old married man with two children, a 16-year-old son and a 13-year-old daughter. Dave was first diagnosed with ADHD at the age of 37 when his son was diagnosed with ADHD and Dave recognized the symptoms in himself and sought an evaluation. Dave reported that he did well in school up through high school, but struggled in college because he was forced to structure his own time and had more long-term assignments than he had when he was younger. Looking back, he realized that he always had a difficult time sitting still and paying attention. He said that he often didn't hand in his homework assignments, but he was able to do well on exams without doing much preparation, so his grades were fairly good. He said that he put off writing papers in college until the last minute, but then would stay up all night before his papers were due and managed to "pull it off" and get "good enough" grades. Dave said that he would have liked to go to law school, but he felt overwhelmed by the application process and never pursued it. He has been working as an assistant manager in retail stores off and on for the past 20 years.

Currently, Dave is prescribed a long-acting stimulant medication by his primary care doctor, and he reports that it is somewhat helpful. Dave reported that he saw a counselor in college for a few sessions to discuss some difficulties that he was having related to a breakup with a girlfriend, but he said that he had never had any psychosocial treatment for his ADHD symptoms. He said that he continues to struggle with organizational issues and that this causes difficulties for him both at work and at home. He reported that he is sometimes impulsive in interpersonal situations and blurts things out that he later regrets, he has difficulties doing quiet activities that require concentration, and he fails to give close attention to details and often makes careless mistakes. He feels that he is intelligent enough to be a store manager or even a company executive, but he has been unable to progress beyond the assistant manager level at work. He noted that his wife often gets frustrated with him because he loses track of important papers, is late paying bills even when they have enough money, and has many unfinished projects around the house.

Dave entered treatment at the urging of his wife, although he said that he was able to see the difficulties that his ADHD symptoms were causing him and was a willing participant in the therapy. Treatment began with the therapist providing psychoeducation regarding ADHD and the CBT model of CBT for ADHD. The therapist explained that individuals with ADHD often lack compensatory skills for coping with their distractibility and impulsivity.

Following this, the therapist moved on to focus on Dave's organizational system for keeping track of his appointments and tasks. Dave reported that he had a number of different systems, none of

which were used consistently. He described a wall calendar at home where all family appointments were listed, an outlook calendar on his computer at work, and then several small notebooks where he listed tasks and appointments as he thought of them. He said he often carried around a small notebook, but rarely looked back at the information once it had been placed in the notebook. The first two sessions were used to help Dave develop a single organizational system. Since he always carried his phone and he was able to synch it with his work calendar, Dave and the therapist decided that he should use the calendar "app" in his phone to keep track of appointments and also keep both his master task list and daily task lists in his phone. The therapist asked Dave to keep all of his tasks and appointments in his phone and to develop a regular time to look at the information. Dave decided he would like to try looking at his appointments and tasks at night before getting ready for bed, and then again while drinking his coffee in the morning. The therapist also instructed Dave to prioritize his daily tasks each morning.

Dave asked if he could bring his wife in for the couples session early on, so Dave's wife, Ashley, was invited for the third session. The therapist provided Ashley with psychoeducation around ADHD. Together, Dave, Ashley, and the therapist talked about the strategies that Dave would be learning in therapy and strategized about how Ashley could support Dave in the therapy, without nagging Dave to use his newly learned skills. During the session, Dave and Ashley agreed to have a weekly "family meeting" during which they would go over the schedule for the week and talk about the family priorities for the week in terms of task completion (e.g., projects that the kids were doing for school, house projects that needed to be completed).

In the fourth session, Dave was asked to bring in his task list and to identify tasks that had been carried over from day to day or week to week. The therapist talked with Dave about the reasons why he was not completing these tasks. The therapist explained that usually tasks are not completed because they are too large and need to be broken down or because the individual does not know how to go about completing the task. One task that Dave was putting off was raking the leaves in his yard. When asked if he knew how to go about this, Dave laughingly admitted that he did know how to rake leaves. However, he noted that he had a very large yard with many trees and he said that he found the task overwhelming and kept promising himself that he would do it the next weekend. Dave and the therapist talked about how he could break the task down in terms of raking for a couple of hours or filling a certain number of yard waste bags each day. Dave said that he felt that it was more likely that he would begin the task when it was phrased in this manner.

The other task that Dave noted that he was putting off was looking for a new job. He said that he had been unhappy at his current job for a while, but he wasn't sure how to go about finding a different type of job. Dave and the therapist completed a problem-solving worksheet, including the option of "staying at the current job." After completing the exercise, it seemed that staying at his current job was a reasonable option for the present, due to the relatively good salary and the convenient location and work hours. However, Dave realized that he would really like to do a job that involved more physical activity and so he added some items to his task list so that he could explore career options that would be more in line with this interest.

For the final session of the organizing and planning module, Dave and the therapist talked about how he could organize his papers and other "stuff." Since paying bills late was an issue that created stress in the family, the therapist and Dave talked about how he could set up automatic online payments for his bills. Dave also talked about how the family "office" was a source of embarrassment for him. He said that, in the past, he had sometimes let mail pile up for several weeks at a time and then, when they were expecting company, had tried to "clean up" by putting all of the mail in a box and putting it in the office. He said that they had a dozen or so of these boxes. He noted that most of the papers could probably be thrown away, recycled, or shredded, but that he felt that he needed to go through each box and examine each piece of paper to make sure that nothing important was being discarded. Dave and

the therapist talked about both, setting up a system to deal with incoming papers each day to avoid this happening in the future, coupled with breaking down the task of going through boxes into small steps and adding these steps as singleton tasks on his task list.

Sessions six and seven focused on reducing distractibility. Dave was asked to estimate the amount of time that he could spend on a boring task and then break tasks up into chunks that took that amount of time. He said that he felt that he could usually concentrate for about 30 minutes without needing to get up and do something else. He was asked to set the timer on his phone for 30 minutes and use the "distractibility delay" technique until the timer went off. Dave said that using this strategy for a few days made him realize how often he became distracted, even during a short time period. He was also asked to make a specific spot where he would leave his phone, wallet, and keys every day so that he could find them when he needed to leave. He asked his kids and his wife to help him by telling him whenever they noticed that one of these items was not in its place. He reported that this single strategy eased the tension at home considerably as it eliminated a lot of frantic searching in the mornings which often led to him being late for work or to drive the kids to school. Dave was also instructed to set reminders for himself so that he could check in and see if he had become distracted. He said that this was especially problematic at work, so he set reminders on his phone to go off every 15 minutes so that he could check in with himself to see if he was on task.

Sessions eight through ten focused on adaptive thinking/cognitive restructuring. After presenting the cognitive model, the therapist talked with Dave about problematic thinking patterns in which he might engage. Dave noted that he sometimes would have negative thoughts, such as when he thought about something such as the prospect of buying a new house. He said that he often had thoughts such as "There are too many steps and I will never be able to complete them all." Dave especially related to the idea of "overly positive" thinking. He reported that he often had thoughts such as "I have plenty of time to clean out the whole attic this weekend," in spite of the fact that he needed to do all of his normal chores, take his kids to activities, go grocery shopping, and attend an all-day meeting at his church one of the weekend days.

The therapist asked Dave to complete some self-monitoring where he wrote out examples of negative or unhelpful thinking that he observed during the week. When Dave brought them into the following session, the therapist talked with him about how he could use Socratic questioning to come up with some more realistic/helpful ways of thinking about the various situations. For example, when they examined the thought about cleaning out the attic, the therapist encouraged Dave to label this as an example of overly positive thinking, ask himself if this was realistic, and come up with an alternate way of thinking about the situation that was more likely to be effective. Dave came up with the thought, "I may not have time to clean out the whole attic, but I will set aside one hour each day to go through some things, so that I will at least make a start on the project." They talked about the fact that by having this more realistic thought, Dave was less likely to feel anxious and overwhelmed and was more likely to engage in the behavior of starting the project.

In session eleven, Dave and the therapist talked about ways to apply previously learned strategies to the topic of procrastination. Dave noted that this was the single most problematic issue in his marriage. The therapist and Dave wrote out the pros and cons of procrastinating in the short term and also the long term, a technique used in motivational interviewing [18]. Dave was able to see that by procrastinating, he was making things easier and more comfortable in the short term, but creating problems in the long term (not enough space to do the things that the family wanted to do, dealing with anger/frustration of his wife). The therapist then worked with Dave to break the task down into small steps and identify the negative thoughts that were contributing to his inaction on this issue.

In the final session of treatment, the therapist asked Dave to review his use of skills and talk about which strategies were most useful. Dave reported that the most useful skills were developing a single task list, learning to break tasks down into manageable chunks, identifying specific

places for important objects, and identifying thinking patterns that were contributing to procrastination. They went on to talk about how Dave could continue to use skills moving forward and also how Dave might cope with a "lapse" in skills use. Dave said he felt that the treatment had been quite beneficial and noted that his wife and children had noticed changes in his behavior as well.

13.3 Summary

ADHD is a neurobiological disorder that typically develops in childhood. In the past, it was thought that the disorder would go away by the time that individuals reached adulthood. However, it is now clear that the disorder persists into adulthood in the majority of cases and continues to cause significant functional impairment. Although medications have been shown to be effective in reducing symptoms of ADHD in adults, there are often significant residual symptoms. Additionally, some individuals are unable to tolerate medications due to side effects, or are unwilling to take medications due to personal preference. Psychosocial treatment, specifically CBT, has been shown to be beneficial in further reducing symptoms of ADHD in medication-treated adults. This treatment teaches individuals to improve their organizing and planning abilities, to learn strategies to reduce their susceptibility to distraction, to learn skills to identify thinking patterns that are unhelpful or not based on existing evidence, and to apply these skills to topics, such as procrastination. More research is needed to evaluate the psychosocial treatments as stand-alone therapies versus as adjunctive treatments to medication. Hopefully, future research will continue to improve and refine psychosocial treatments for adult ADHD.

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Additional Resources

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