

Modifying Cognitive Behavioural Therapy for High-Functioning Autism Spectrum Disorder

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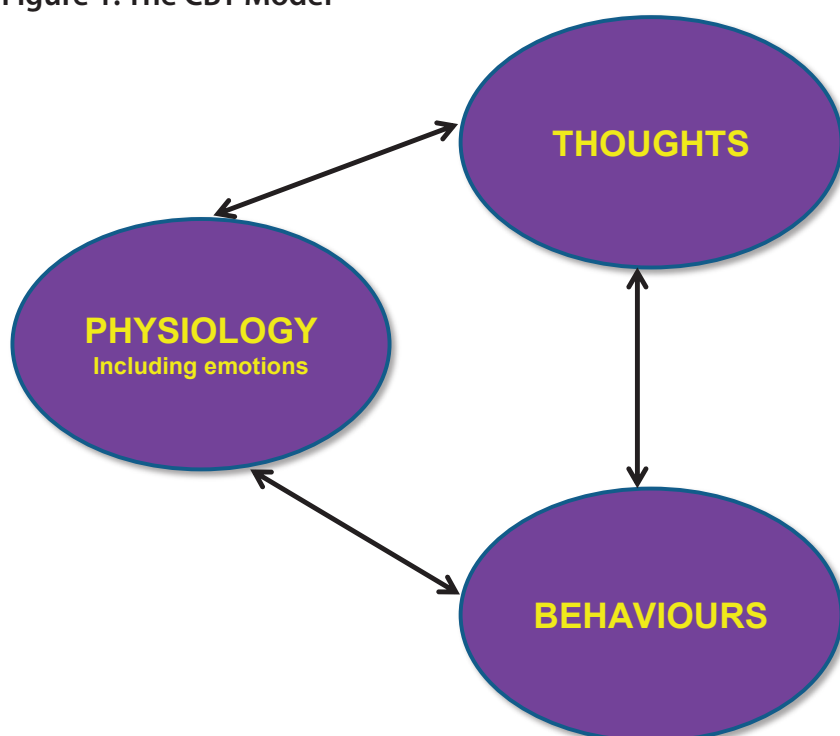
Abstract

Cognitive Behavioural Therapy (CBT) is a psychological therapy with an evidence base in treating "neurotypical" adults and children with various mental health problems. CBT has been applied to individuals with high-functioning autism spectrum disorder in individual and group settings for the treatment of comorbid mental health difficulties (e.g. anxiety) and core autism-related difficulties (e.g. social understanding). This paper briefly describes the literature and considers the specific challenges of applying CBT to this population. It also describes a range of modifications to CBT that need to be made in adapting the treatment for the patient group, including taking a more directive approach, ensuring an increased use of written/visual material, a greater emphasis on affective education, avoidance of metaphor/abstract concepts, the incorporation of special interests and the involvement of family members.

Introduction

CBT is a brief, structured form of psychotherapy, originally developed to treat depression, which is now used in a range of disorders (1). This paper deals with individual CBT for autism spectrum disorder (ASD), as opposed to strictly behavioural treatments which have a separate evidence base and remit (2). CBT has good effectiveness in "neurotypical" populations in adults with various mental health disorders but also has a growing evidence base for use in children (particularly in anxiety and depression). CBT is a problem-oriented intervention which focuses on psychological and situational problems that contribute to distress, and fosters the development of more effective coping skills. The model assumes that thoughts, physiology/emotion and behaviours closely interact and that patterns of maladaptive cognitions are characteristic of psychological disorders. See Figure 1. The components of CBT are listed in Box 1.

Figure 1: The CBT Model



Box 1: Components of CBT

- A. A collaborative therapeutic relationship – the patient and therapist work together to formulate and resolve problems
- B. The assessment and formulation of problems
- C. The structure of sessions is open and explicit
- D. Goals are set at the outset of treatment, which are detailed, specific and objectively measurable
- E. There is affective education – linking thoughts, feelings and behaviours
- F. Thought monitoring is fostered where unhelpful thoughts are captured and challenged
- G. Thought evaluation skills are a focus where more balanced functional thoughts are encouraged

Rationale for applying CBT to autism

There are some specific drivers that might argue for the application of CBT to patients with autism spectrum disorder (with IQ in the normal range). First, many studies show that children with autism have higher rates of psychiatric disorder (3). Second, as CBT has been successfully adapted for use with children and adolescents it is the kind of therapy that might be easily adapted for other populations with specific developmental constraints. Third, almost 35 years ago Lorna Wing suggested using: “the innate logicity of the person with Asperger’s Syndrome to effect therapeutic change”(4) which would fit broadly with the CBT model that encourages the patient to step back and use logical reasoning to evaluate all available evidence.

Effectiveness of CBT in ASD

There is a small but promising evidence base of studies demonstrating the successful use of CBT in ASD for a variety of problems, including more circumscribed common “comorbid” mental health problems such as anxiety (e.g. 5,6,7), OCD (e.g. 8), anger (e.g. 9) and more “intrinsic” issues such as social understanding (e.g. 10).

An example of randomised controlled trial (RCT) evidence of the effectiveness of CBT is a study which evaluated 71 children (10 to 12 years old) with autism who received either “group CBT”, group CBT with their parents as co-therapists, or were placed on a waiting list (5). The results showed that in the two CBT intervention groups, parental report of the child’s anxiety decreased; this was most marked at 6 week follow-up. When the parent was co-therapist the treatment gains were even better. In addition to the evidence from RCTs, there have been some extended case series (6) and case studies (e.g. 11) reporting very positive treatment outcomes.

Although the findings in this area generally report very positive results, these outcomes should be interpreted with caution because of some methodological limitations in the studies.

Modifications to CBT for Autism

Adaptations are suggested below in relation to the various components of CBT already described and listed in Box 1.

A. Collaborative therapeutic relationship

People with Autism have difficulties in reciprocal social interaction and find it hard to establish relationships, particularly if asked to discuss thoughts and feelings. This may be a challenge in CBT.

- The relationship should not be made the basis of clinical work as in traditional CBT. Hare and Flood (12) suggest a “one-off” download of personal information in sessions (rather than

through an interview), highlighting the need to be more directive and less collaborative.

- The uncomfortable personal interactions should be separate from still obtaining the important information. Use of alternative formats that direct attention away from the traditional one-to-one reciprocal interactions is crucial (e.g. visual materials, diaries, MP3 files). There are some computerised CBT programmes for specific disorders that can be used flexibly to deliver all or part of the CBT intervention e.g. “Stressbusters” for depression (13). Instead of verbal communication, use instant messaging, email or handwritten notes to discuss emotions.
- “Externalise” symptoms with a patient’s own literal terms (e.g. in one case study OCD was called “urges and phases” (8)).

B. Assessment and Formulation

Assessment in CBT usually requires baseline rating scales for the symptoms that are the target of treatment and progress. Progress is then monitored through treatment with the same scales. However, these standardised questionnaires have not been validated in ASD populations.

- Include a list of behavioural indicators of symptom change across home and school environments (e.g. mood change indexed by an increase in time spent with special interest across environments).
- Assessment should be informed by an evaluation of cognitive abilities to determine the absolute level of IQ and the individual’s style of learning.
- Use behaviourally anchored measures (sleep/activity monitoring) and visual measures of distress employed throughout treatment e.g. gradation in experience through “thermometer”, “bar graph” or “volume scale”.
- The use of technology to identify internal cues has been suggested by some e.g. biofeedback instruments like EMG and GSR machines (14).
- Placing a “rope on the floor” can help illustrate the idea of a continuum.
- Individuals may be particularly interested in tracking outcome measures.

C. Structure

Individuals with autism often have executive function difficulties, meaning that planning, motivation, organising and prioritising are a challenge for them.

- CBT is an already-structured framework and the “inherent structure in CBT may generalise to other areas of the client’s life” (15).
- Provide external structure to sessions e.g. an explicit printed list of agenda items.
- Provide typed/drawn session summaries.
- Offer games from a list to break up sessions and rewards from reward bank (9).

D. Goal setting

Problems with focusing on irrelevant details are common.

- Use of a clear baseline, tracking improvements through initial readily attainable goals to maintain motivation.

E. Affective Education

Impairment in emotional recognition of self/others is a core deficit.

- More sessions spent on emotional vocabulary and recognition early in treatment using books, videos, interactive DVD-ROMs e.g. “Mind Reading” (16).
- Name emotions, discussing why we have emotions and identifying different levels of emotional expression.
- Encourage thinking of themselves as a detective or scientist exploring a new planet and looking for clues/data, not making accusations or conclusions without thoroughly examining the evidence for and against their theory.

- Use “Social Stories” (17) - rationale for social codes that indicate a specific rule and the “script” for what to do.
- Use “Comic Strip Conversations” to learn about emotion (18): draw matchstick figures to depict a social situation with thought bubbles to identify what people do, say and think.
- Emotional thermometer diagram can be used to demonstrate different emotions. Physiological, behavioural and cognitive cues associated with the level can be marked on thermometer with “warning levels” to show when action needs to be taken to prevent further elevation of emotional arousal and need for coping skill (e.g. relaxation technique).
- Reaven and Hepburn treated a girl who named her OCD “worry machine” and it was used to develop a desensitisation hierarchy in the usual way (8).
- Psycho-education about ASD should be combined with information on, for example, mood disorder.
- Suggest reading autobiographies of other people with autism – helps with normalisation (component of CBT).
- Use multiple choice questions or pictorial dictionary of feelings to go along with diaries.

F. Thought Monitoring

There are qualitative differences in introspection in ASD (19): less inner experience in verbal, visual, un-symbolised thinking and no feelings, in contrast to mainly visual with elaborate detail, in autism.

- Need to help translate visual thoughts through use of writing, drawing, computers, etc.

G. Thought Evaluation

The executive functioning deficits lead to difficulties in generating alternative thoughts, beliefs, solutions; judging the potential usefulness of alternative strategy; speculating on the outcome of a course of action.

- Use an individual’s special interest to help modify beliefs e.g. see how Dr Who would manage in an anxiety-provoking situation or inclusion in emotional recognition dictionary (20).
- Present a concrete rule in preference to challenging assumptions (8).
- Use a thought chain (21) as an alternative to the CBT “downward arrow technique” – this can make thinking process more explicit and decide at which point to intervene.

Figure 2: Thought Chain



Other adaptations that relate to problems in helping the individual generalise skills to other settings.

- Actively involve a family member as co-worker to support practice in other settings (5).
- Use “stress management” (e.g. relaxation), but also consider the circumstances that lead to stress (e.g. socialising at break times, journey to school).
- Use cue-controlled relaxation with a special (tangible) “key” to imaginary world.
- Develop an “emotional toolbox” with a variety of tools: hammer (physical tools – exercise); paint brush (relaxation skills); two-handed saw (social activities, people, animals); manual (thinking tools – positive self-statements and looking for evidence); and no dangerous/unsafe tools (violence/suicide threat).
- Make explicit the social ground rules for therapy.
- Identify other children with ASD and somewhat younger children with similar interests for social interactions– parents given intensive “play date structuring advice”.
- School is asked to identify peer buddies, (students of same age known to be empathic and kind) trained directly, e.g. invite to have lunch together.

Summary

It was previously thought that people with ASD may not be able to benefit from use of CBT. Over the last few years, there has been publication of an increasing number of evidence-based studies demonstrating the successful use of CBT in ASD for clinical problems such as anxiety, OCD, anger management and social skills deficits. In all the studies, the clinicians delivering CBT have adapted traditional CBT methods slightly, such as focusing on visual presentation of material, use of social stories, and less emphasis on specific aspects of the therapeutic relationship with emphasis on evaluation of outcomes.

People with ASD should not be excluded from receiving CBT simply because they have ASD. A flexible and creative approach to using CBT on the part of the therapist can help engage the patient and thus allow the patient to manage his clinical difficulties. More research is needed in this area but the current signs are promising.

GP comment.

What have I learned from this paper?

1. The paper suggests that CBT could well be useful in some patients with ASD. This is because children with autism suffer higher rates of psychiatric disorder and comorbid psychological problems such as anxiety, OCD, anger control and social understanding, which may well be amenable to CBT.
2. This is progress, as previously it was thought they would not be able to benefit. However, the therapy should be flexible, and if necessary modified to make available the use of new/different strategies. Help may be needed from other people deemed to be co-therapists (eg parents, carers).
3. Plenty of ideas are provided regarding new/different strategies. These would be an extremely useful aid to anyone considering employing CBT for patients with autism.

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