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**Evidence based practice in Cognitive Behaviour Therapy (CBT)** 

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# Summary

CBT is a practical, goal focused approach, that helps children understand the relationship between their thoughts, feelings and behaviours. The aim is to identify the dysfunctional and distorted cognitions associated with their psychological problems and to create more functional and balanced cognitive patterns that create less emotional distress and more helpful behaviours. CBT has strong evidence as an effective intervention for children and adolescents with emotional problems. The benefits for children with physical health and chronic conditions appear promising although further research is required to substantiate these gains.

# Cognitive Behaviour Therapy (CBT)

Cognitive behaviour therapy (CBT) is a generic term used to describe a family of psychotherapeutic interventions that focus on the relationship between the way we think (cognitions), how we feel (emotions) and what we do (behaviour)<sup>1</sup>. The first randomised trials evaluating CBT with children appeared in the early 1990s and as the evidence base was quickly established it was recommended by NICE for the treatment of depression in 2005. CBT enhanced existing approaches, predominantly based on behaviour therapy, by recognising the importance of the personal meanings and interpretations that are made about events. CBT is therefore informed by behavioural <sup>2,3,4</sup> and cognitive theories <sup>5,6,7</sup>

CBT assumes that psychological problems and emotional distress arise from the way that events are construed rather than the event per se. These constructions may become negatively biased and overly rigid leading to events being perceived, processed and interpreted in distorted and dysfunctional ways <sup>8</sup>. These unhelpful cognitive patterns become associated with unpleasant emotions (e.g. feelings of anxiety, depression, or anger), and unhelpful behaviours (e.g. avoidance or withdrawal).

The aim of CBT is to understand and challenge these biased and distorted cognitions. By so doing, alternative, more balanced, and functional ways of thinking are developed which facilitate more effective coping, reduce emotional distress, and encourage more appropriate behaviours <sup>8</sup>. Figure 1 summarises the functional and dysfunctional CBT cycles.

#### Insert Figure 1 here

# Dysfunctional cognitions

CBT is based on the premise that dysfunctional (biased and distorted) ways of thinking underlie common psychological problems. People with anxiety for example, tend to over-estimate the threat of risk and personal danger whilst underestimating their ability to cope. For example, a child who is anxious about medical procedures that involve needles or injections may think *"this is going to really hurt"* and *"I will pass out and make a fool of myself"*. When confronted with a situation where a medical procedure is required, thoughts such as these (automatic thoughts) will be triggered

generating feelings of anxiety or distress. Typically, these are dealt with by refusing or avoiding the procedure and, although this may bring short term relief, the child never learns that they can cope.

Similarly, people with low mood tend to think in very negative and critical ways. A child with a chronic health condition who has become depressed may have negative thoughts about themselves (e.g. *"I am weak"*), what they do (*e.g. "people won't want to hang out with me"*), and their future (e.g. *"I will never get better"*). These negative, self-critical, failure focused thoughts create an overwhelming sense of hopelessness, helplessness and sadness. These effect behaviour, and typically result in a loss of interest, lack of motivation and social withdrawal as it becomes increasingly difficult to engage in everyday or previously enjoyable activities.

Box 1 provides a case summary highlighting the association between dominant dysfunctional cognitions, mood and behavour.

#### Box 1: Casey

Casey (14), was diagnosed with diabetes and for the past 12 months her mood had deteriorated. She was angry, tearful, had stopped socialising with her friends and rarely went out. She was reluctant to attend school, her grades had dropped, and she had started to self-harm. During the CBT assessment the following dominant cognitions were identified that were related to Casey's social withdrawal ("people will laugh at me if they know I have diabetes"), low mood ("I can't do anything or go anywhere now"), anger ("why me") and self -harm ("people will be better off without me").

These dysfunctional thinking patterns develop as a result of past experiences. For example, a child may have had a bad experience of an injection where they felt dizzy or may have had repeated hospital admissions resulting in them being separated from their friends. These dysfunctional thinking patterns are strengthened by memory and attention biases which selectively recall past events or focus on information that supports them. The child who requires a needle procedure may recall the past bad experience and assume that future procedures will hurt and that they will not cope. Similarly, the child who had a number of hospital admissions may focus on who has not visited them thereby strengthening their thoughts that their friends do not want to be with them. As these dysfunctional ways of thinking become stronger they become more enduring, rigid, distorted and biased. Occasions when needle procedures were successfully coped with are not remembered whilst a card with get well wishes from friends is overlooked.

# Balanced and functional cognitions

CBT aims to identify and challenge these biased and dysfunctional cognitive patterns and to develop more balanced and functional ways of thinking. This is achieved by encouraging the child to look at the whole picture, to actively look for evidence that has been overlooked or forgotten that might question their unhelpful ways of thinking. Although the goal appears simple, the process through which this is achieved is complex and requires specialist training in CBT and on-going supervision. The process is one of guided discovery where the child is helped to reflect on their thoughts and behaviours. This is facilitated through a series of carefully constructed questions (Socratic dialogue) and behavioural experiments which help the child to question their thoughts and develop new ways of thinking and behaving <sup>8</sup>. This leads to the development of more balanced ways of thinking that recognise the difficulties but also recognise the child's strengths and successes. Thoughts such as "*I will pass put and make a fool of myself*" might become "*I might feel dizzy but there are lots of times I have coped and I have not passed out*". Similarly, "*my friends won't want to hang out with me*" may become more balanced e.g. "*it is hard for my friends to visit me in hospital but my card shows how much they care*". Cognitions such as these are more functional, enabling and motivating and reduce emotional distress, avoidance, and withdrawal.

It is important to stress that CBT is not simply about thinking positively. It recognises the reality of the situation. The thoughts of a child with a chronic health condition that *"they will never get better"* may be realistic and require acknowledgement and acceptance rather than challenge and change <sup>9</sup>. Nonetheless, the child can still be helped to develop more balanced and helpful cognitions that focus on what they can do and achieve, i.e. *"it is hard, but I can still watch my favourite football team"* rather than what they cannot.

# Parental involvement

In terms of physical health, parents are affected by their child's illness/medical condition and are typically involved in its' management <sup>9</sup>. They will have their own cognitions, and like their children, some will be dysfunctional and unhelpful. For example, parents may feel guilty, blame themselves for their child's problems, and try to overcompensate or protect them from possible future harm thereby strengthening the child's dysfunctional cognitions that *"I can't cope"*. CBT therefore involves an assessment of the parent's cognitions and behaviours to identify and address any that might be contributing to the child's problems or adversely impacting on treatment.

Parent's will also have a role in supporting or delivering the intervention for their child. This can range from attending one or two sessions with their child to more extensive involvement where they attend most sessions. Another approach, which is effective with younger children with anxiety disorders, is to train and support parents to directly deliver CBT to their child <sup>48</sup>. The extent and way that parents are involved will be informed by the assessment.

# Core features of CBT

In contrast to traditional psychotherapies, CBT is a structured approach which focuses on the here and now and as such, has high face validity for children. It is problem-focused where the goals the child and their parents would like to achieve are explicitly agreed during initial sessions. The process is objective where progress and changes in internal emotional states and cognitions are routinely assessed and quantified through routine monitoring and the use of rating scales. In terms of length, CBT is relatively brief with many interventions being delivered within 6-12 sessions. Whilst originally developed as a face to face intervention CBT can also be delivered remotely via telephone or online. The therapeutic process requires the active involvement of the child and/or their parents. This is often described as "collaborative empiricism"<sup>10</sup>, where the therapist and child/parent work together to develop an understanding of the problems and to identify and develop more helpful cognitive, behavioural, and emotional skills. The role of the clinician is to facilitate the process of "guided discovery" <sup>11</sup> where the child is helped to attend to new or overlooked information and through this learn to develop alternative meanings. Similarly, "discovery experiments", where the child is encouraged to test their predictions, are often used to objectively check biased and unhelpful cognitions <sup>12</sup>. Finally, clinical sessions are complimented by home assignments which provide the bridge to transfer skills from clinical sessions to everyday life. These might involve self-monitoring, practicing new skills or experiments to test out what happens if the child thinks or behaves differently <sup>12</sup>.

# Adapting CBT for children

CBT is a talking therapy and was originally developed for adults <sup>5,6,7</sup>. Although it can be sophisticated and complex, many of the tasks require an ability to reason effectively about concrete matters. If creatively adapted to match the child's cognitive, social, and emotional development young children (aged 5-8) can benefit from CBT <sup>14</sup>.

Key adaptations involve the use of more non-verbal materials, concrete metaphors to explain abstract concepts, simpler language, clear processes, and a greater emphasis on activities. There are several books available which provide examples of CBT materials and worksheets which can be used with younger children and older adolescents <sup>1,15,16</sup>. In terms of materials, cartoons and thought bubbles are often used to help children communicate their thoughts. Multiple thought bubbles introduce the child to a core concept of CBT namely that of alternative thinking, i.e. there is more than one way of thinking about the same event, whilst unfinished sentences can be used to identify thoughts related to specific situations and feelings <sup>1</sup>.

Metaphors are a useful way of describing abstract concepts in familiar terms <sup>17</sup>. A good metaphor is simple, concrete and relates to objects or events that the child is familiar with <sup>18</sup>. A traffic light, for example, can be used to explain dysfunctional and functional ways of thinking. Red thoughts (dysfunctional thoughts) are the "stop" thoughts which prevent the child from doing what they would like whilst green thoughts (functional) are the "go" thoughts which motivate and encourage the child to face and overcome their challenges. Common cognitive biases can be explained as "thinking traps" with common cognitive distortions such as magnification, selective attention and personalisation being explained more simply as "blowing things up", "looking through negative glasses" and "blaming yourself". Complex cognitive processes can be simplified. For example, a specific step process such as the 4CS ("catch it, check it, challenge it, change it") provides a simple way to remember the process of thought identification, evaluation, and re-appraisal <sup>1</sup>.

In terms of activities, CBT can involve the use of games. Emotional charades can be used to act out common emotions whilst quizzes can help to identify how a child may think, feel, or behave in various situations. With older children, the internet can be used to find out more about common

mental health problems or to share videos from other children about how they have learned to overcome their problems.

Finally, CBT needs to be matched to the child's development and adjustments made in the balance between behavioural and cognitive methods. With younger children, who may have more limited cognitive development, there is a greater use of behavioural techniques. This involves more concrete activities where the child's cognitions are explored through "doing" behavioural experiments rather than through cognitive debate and discussion. The focus is therefore on objectivity with the results being used to "check out what happens". Adolescents, with better developed cognitive skills, may engage better with more cognitive focused work.

# Phases of CBT

The initial phase of CBT is psychoeducation which is primarily focused upon engagement, developing the therapeutic relationship and socialising the child and their family into the cognitive model. The basic CBT model linking events, thoughts, feelings and behaviours is explained and the active role of the child and their parents in testing ideas and undertaking home assignments is emphasised. Attention is paid to developing the therapeutic relationship with the child and/or their parents in order to increase the child's engagement and motivation to change.

The second phase involves the promotion of self-awareness. This involves self-monitoring where diaries are used to identify situations or events that the child finds difficult. Monitoring helps the child to become aware of their own cognitions, emotions and behaviours and the relationship between them. This leads to the development of a shared understanding of the child's problem (i.e. a cognitive formulation) and the agreement of the goals the child/parent would like to achieve.

The third phase is the development of skills to counter dysfunctional cognitions, mange unpleasant emotions and change unhelpful behaviours. Different types of cognitions (helpful and unhelpful), processing biases (thinking traps) and common dysfunctional cognitions will be identified through thought monitoring (diaries). Dysfunctional thoughts will be systematically tested as the child is helped to identify new, or attend to overlooked, information. This process results in limits being placed around dysfunctional thoughts and provides alternative interpretations which are more balanced and functional. Emotional monitoring helps to identify situations and thoughts that are associated with particularly strong, unpleasant or prolonged emotional states. Emotional management skills such as relaxation training, mindfulness, positive imagery or activity rescheduling may be developed to reduce the intensity or frequency of these unpleasant emotions. New, more functional and adaptive behaviours may be developed in which problem solving, social, and personal effectiveness skills such as assertion and negotiation skills are enhanced. Specific skills such as graded exposure to combat avoidance in anxiety or behavioural activation to help depressed young people re-engage in activities may be developed.

The fourth phase is consolidation where new cognitive, emotional and behavioural skills are integrated into the child's everyday repertoire. They are practiced in the child's home, educational,

social and leisure environments and used to deal with the problems and challenges they previously found difficult. Difficulties in use or effectiveness are reviewed as skills are fine-tuned as the child's coping toolbox is developed.

The final stage is relapse prevention where the child is encouraged to reflect on those aspects of the intervention that have been most helpful, prepare for possible relapse and to develop a contingency plan in case problems re-emerge.

Box 2 provides an overview of the CBT intervention for the case described in Box1.

Box 2: Casey intervention summary

The CBT intervention focused on Casey's low mood and started with psychoeducation about depression and the CBT model and process. Self-awareness was promoted through a thought and feeling diary which identified her dominant thinking traps ("mind-reading" and "all or nothing thinking"). The third phase started with behavioural activation to address her social withdrawal. This involved agreeing small targets for Casey to gradually re-engage with her friends and social activities. Accompanying strong feelings of anxiety, anger and urges to selfharm were addressed through emotional management, where Casey learned different types of relaxation. Her dysfunctional thoughts were tested in experiments. The first involved telling her best friend about her diabetes to see if she reacted as Casey predicted. The experiment showed that her friend was very caring and keen to help which made Casey feel more relaxed and confident with her peers. Her tendency for all or nothing thinking was challenged by actively focusing on the things she did and to record these in a positive log. As the log grew Casey realised that although things could be difficult, she was still able to do many of the things she enjoyed. As these skills were practiced Casey became able to challenge her thinking traps and to develop more balanced and functional cognitions. A relapse prevention plan was agreed which summarised the key skills that Casey had developed and what to do if future problems re-emerged.

# The effectiveness of CBT

There is more evidence to support the effectiveness of CBT than any other psychological therapy <sup>19</sup>. Across different populations, conditions, and contexts there is consistent evidence supporting the benefits of CBT <sup>20</sup>. With children, systematic reviews consistently demonstrate that CBT is effective for the treatment of anxiety <sup>21,22</sup>, depression <sup>23,24</sup>, posttraumatic stress disorder <sup>25,26,27</sup>, obsessive compulsive disorder <sup>28,29</sup> chronic pain <sup>30</sup> and needle related pain <sup>31</sup>. It is effective in treating anxiety in children with ASD <sup>32</sup> and there is some evidence that it is effective in treating anxiety in the context of long term physical health conditions <sup>33, 34, 35, 36</sup> and in the treatment of adolescent sleep <sup>37</sup>.

This substantial and consistent evidence has resulted in CBT being recommended by expert groups such as the UK National Institute for Health and Clinical Excellence and the American Academy of Child and Adolescent Psychiatry for the treatment of young people with emotional disorders. This growing evidence base has also promoted the development of a national training programme in the UK to make CBT more available through the Children and Young Person's Improving Access to Psychological Therapies (CY- IAPT) programme <sup>38</sup>.

# When does CBT not work?

Although CBT has the strongest evidence base it is not a panacea for all psychological problems. The strongest evidence is for emotional disorders and whilst there is some evidence that CBT can be effective with externalising problems this is more limited. For those presenting with conduct problems or challenging behaviour, parenting interventions and positive behaviour support are more appropriate

In terms of style, the here and now focus of CBT may not suit those who want to understand more about past events which may have contributed to the onset of their current difficulties. Similarly, the active and collaborative process may not suit those who prefer a more directive, clinician-led approach.

It is also important to understand the context of the child's problems and in particular, family functioning. Family dynamics are often complex and can result in individual children being inappropriately perceived as responsible for a family's difficulties. If the child's problems are an indication of wider family or systemic problems, then a more individualistic approach like CBT would not be appropriate.

Motivation and engagement are key requirements for any psychotherapeutic intervention. Whilst the initial phase of CBT aims to enhance motivation, there does need to be some recognition and ownership of a problem, a clear goal, and a need for change. If these are not present then CBT, like any other psychotherapy, will not be effective.

Finally, timing is an important consideration. Many children will go through a process of adjustment to events such as receiving a medical diagnosis with negative and unhelpful thoughts about the potential impact on their life being common <sup>9</sup>. This is normal and does not indicate that a psychological intervention is required. However, if these unhelpful and dysfunctional ways of thinking become established and have an adverse effect on the child's everyday life then CBT maybe appropriate.

# Future developments

Whilst CBT has a strong evidence base there is comparatively less research documenting the effectiveness of CBT with young children (under 9 years) or in treating health problems, pain, or fatigue in children with long-term or chronic physical health conditions <sup>33, 34, 35, 36</sup>.

In terms of delivery, CBT has traditionally been provided as a face to face intervention, either individually or in groups. The structured nature of CBT lends itself well to digital delivery with computerised CBT, online programmes and app based interventions being developed. The results are limited but encouraging <sup>39, 40, 41,</sup> with computerised CBT now being recommended in the UK as a first line treatment for mild to moderate depression <sup>42</sup>.

Finally, traditional CBT involves identifying, challenging and reappraising dysfunctional cognitions. Whilst effective, there are some who do not respond to such an approach. Recent models, often termed third wave CBT, focus on changing the nature of the individual's relationship with their thoughts rather than changing their specific content. Thoughts are understood as mental activity

rather than defining reality with new cognitive interventions based on mindfulness, acceptance, compassion and distress tolerance helping to minimise the emotional distress they generate. Research is emerging to document the benefits of third wave CBT interventions with children although further evidence is required <sup>43, 44, 45,46,47</sup>.

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