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This is a brief overview of information about cognitive behaviour therapy (CBT), taken from the Autism CRC report, Interventions for children on the autism spectrum: A synthesis of research evidence (Autism Interventions Evidence Report).

There are seven other category overviews available designed to help people learn about different interventions and their research evidence. To understand the information in its full context, we encourage you to access the full report .

Why is CBT supposed to support children's development?

CBT is an intervention that is typically used to treat anxiety disorders and depression. The central premise of CBT is the interdependent relationships between how an individual thinks (cognition), acts (behaviour) and feels (emotion), and that unhelpful thoughts and thinking styles and their associated behaviours can perpetuate negative emotions.

CBT intervention supports people to identify unhelpful thoughts about distressing stimuli, and develop alternative ways of thinking about and responding to these (notes 1 and 2).

The application of CBT to children on the autism spectrum is based on findings that anxiety disorders and depression are commonly observed in this population. The use of CBT may lead to broad improvements in mood disturbances, and improve broader autism characteristics that may be subserved by these, such as a reduction in unhelpful routines or behaviours of concern, and an increase in social behaviours.

How is CBT used in clinical practice?

CBT may involve a variety of intervention components, but when used with children and adults on the autism spectrum, the intervention typically includes:

- explaining the cause of anxiety,
- discussing the impact of anxiety on daily life,
- identifying situations that induce anxiety and ordering these,
- gradually exposing the person to the situations from least to most confronting while managing anxiety as it arises, and
- teaching the individual additional coping strategies such as relaxation.

What are the principles that underpin the use of CBT?

There is no universal set of principles for CBT as it applies to children on the autism spectrum. In the broader context of childhood anxiety disorders, five essential components of CBT have been highlighted (note 3):

- Assessment as the basis for case conceptualisation, treatment planning and monitoring change.
- Psychoeducation to help children understand the nature of anxiety and how treatment works.
- The development of coping skills related to
    1. identifying and differentiating feelings,
    2. identifying and managing tension through relaxation exercises,
    3. identifying and challenging their own thoughts, and
    4. problem solving in a systematic manner.
- The use of exposure tasks to gradually desensitise the child to the situation/s causing anxiety and build confidence for coping with these.
- Contingency management involving the systematic use of extrinsic and intrinsic reinforcement to support behaviour change.

Who delivers CBT?

Children on the autism spectrum often have needs across multiple domains of learning, and physical and mental health. Accordingly, children and families may benefit from the expertise of a range of clinical practitioners spanning health, education and medical disciplines.

For all intervention categories, it is essential that clinical practitioners have acquired appropriate qualifications, are regulated (eg. by a professional or government body), and deliver interventions that are within their scope of practice. A detailed explanation is provided in the full report.

What is the evidence for the effect of CBT on child and family outcomes?

Below is a summary of the evidence for the effect of CBT interventions on child and family outcomes, taken from systematic reviews published since 2010. This means that a range of relevant individual studies have been considered, and thus reflects the best available evidence at this point in time.

Listed first are findings from systematic reviews that considered a mixture of CBT interventions. Following that are findings relating to specific CBT intervention practices.

Summary of evidence tables

- Each cell represents evidence for the intervention category or practice (horizontal rows) on various child and family outcomes (vertical columns).
- The effect of these interventions on a range of child and family outcomes is summarised as positive, null, or mixed.
    - **+** means that all available evidence indicated a positive effect of the intervention on a given child or family outcome.
    - **?** means that there was a mixture of positive and null effects reported for the intervention on a given child or family outcome.
    - **0** means that all available evidence indicated a null effect of the intervention on a given child or family outcome.
- H / M / L indicates the methodological quality of the evidence that contributed to the overall intervention effect for a given child or family outcome. The quality of evidence on which these findings are based is summarised as high, moderate, or low. These quality ratings are relative to those that met the minimum standards to be included in the report. Where there is more than one quality rating, it means more than one systematic review is represented.
    - **H** indicates evidence from a high quality review
    - **M** indicates evidence from a moderate quality review
    - **L** indicates evidence from a low quality review
- Where a cell is empty, it means there was no evidence available from the systematic reviews included in the report.

Please refer to the full report for a detailed explanation of the process used to collect, summarise, and synthesise the evidence presented here.

Core autism characteristics

Interventions	No. of systemic reviews	Overall autistic characteristics	Social-communication	Restricted and repetitive interests and behaviours	Sensory behaviours

Systematic reviews of cognitive behavioural therapy	4	? M	+ L		+ L
Exposure package	1				
Imitation based training	1				
Multi-component package	1				
Reductive package	1				
Social behavioural learning strategy	1				
Social cognition intervention	1				
Social communication intervention	1				
Social skills training	1	+ L			
Social thinking intervention	1				
Theory of Mind training	1				

Related skills and development

Interventions	No. of systematic reviews	Communication	Expressive language	Receptive language	Cognition	Motor	Social-emotional/ challenging behaviour	Play	Adaptive behaviour	General outcomes
Systematic reviews of cognitive behavioural therapy	4	+ L			+ L		+ LL		+ LL	
Exposure package	1									? L
Imitation based training	1									? L
Multi-component package	1									? L
Reductive package	1									? L
Social behavioural learning strategy	1									0 L
Social cognition intervention	1									0 L
Social communication intervention	1									? L
Social skills training	1	+ L			+ L		+ L	+ L	+ L	
Social thinking intervention	1									0 L

Interventions	No. of systemic reviews	Communication	Expressive language	Receptive language	Cognition	Motor	Social-emotional/ challenging behaviour	Play	Adaptive behaviour	General outcomes
Theory of Mind training	1									? L

Education and participation

Interventions	No. of systemic reviews	School/ learning readiness	Academic skills	Quality of life	Community participation
Systematic reviews of cognitive behavioural therapy	4	+ LL	+ L		
Exposure package	1				
Imitation based training	1				
Multi-component package	1				
Reductive package	1				
Social behavioural learning strategy	1				
Social cognition intervention	1				

Interventions	No. ofsystemic reviews	School/ learning readiness	Academicskills	Quality of life	Community participation
Social communication intervention	1				
Social skills training	1	+ L			
Social thinking intervention	1				
Theory of Mind training	1				

Family wellbeing

terventions	No. of systemic reviews	Caregiver communication and interaction strategies	Caregiver social emotional wellbeing	Caregiver satisfaction	Caregiver financial wellbeing	Child satisfaction
Systematic reviews of cognitive behavioural therapy	4					
Exposure package	1					
Imitation based training	1					
Multi-component package	1					
Reductive package	1					

terventions	No. of systemic reviews	Caregiver communication and interaction strategies	Caregiver social emotional wellbeing	Caregiver satisfaction	Caregiver financial wellbeing	Child satisfaction
Social behavioural learning strategy	1					
Social cognition intervention	1					
Social communication intervention	1					
Social skills training	1					
Social thinking intervention	1					
Theory of Mind training	1					

Practices included in systematic reviews of assorted cognitive behaviour therapy interventions

Building Confidence Family Cognitive behaviour therapy (FCBT); Cool Kids; Coping Cat CBT program; Facing your fears; Group Cognitive Behaviour Therapy (CBT); Social Skills Training for Children and Adolescents with Asperger Syndrome and Social-Communications Problems; Thinking about you, thinking about me.

View the full evidence table for all intervention categories

Full reference of report

Whitehouse, A., Varcin, K., Waddington, H., Sulek, R., Bent, C., Ashburner, J., Eapen, V., Goodall, E., Hudry, K., Roberts, J., Silove, N., Trembath, D. Interventions for children on the autism spectrum: A synthesis of research evidence. Autism CRC, Brisbane, 2020

Intervention category overviews

- Behavioural interventions
- Developmental interventions
- Naturalistic developmental behavioural interventions
- Sensory-based interventions
- Technology-based interventions
- Animal-assisted interventions
- Cognitive behaviour therapy
- Treatment and Education of Autistic and related Communication-handicapped Children (TEACCH) interventions

Notes

1. Lang, R., Regester, A., Lauderdale, S., Ashbaugh, K., & Haring, A. (2010). Treatment of anxiety in autism spectrum disorders using cognitive behaviour therapy: A systematic review. *Developmental Neurorehabilitation, 13*(1), 53-63. doi:10.3109/17518420903236288
2. Rachman, S. (2015). The evolution of behaviour therapy and cognitive behaviour therapy. *Behaviour Research and Therapy*, 64, 1-8. doi:10.1016/j.brat.2014.10.006
3. Gosch, E. A., Flannery-Schroeder, E., Mauro, C. F., & Compton, S. N. (2006). Principles of cognitive-behavioral therapy for anxiety disorders in children. *Journal of Cognitive Psychotherapy* (3), 247-262. doi:10.1891/jcop.20.3.247

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