

Very early family-based intervention for anxiety: two case studies with toddlers

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ABSTRACT

Anxiety disorders represent the most common category of psychiatric disorder in children and adolescents and contribute to distress, impairment and dysfunction. Anxiety disorders or their temperamental precursors are often evident in early childhood, and anxiety can impair functioning, even during preschool age and in toddlerhood. A growing number of investigators have shown that anxiety in preschoolers can be treated efficaciously using cognitive-behavioural therapy (CBT) administered either by training the parents to apply CBT strategies with their children or through direct intervention with parents and children. To date, most investigators have drawn the line at offering direct CBT to children under the age of 4. However, since toddlers can also present with impairing symptoms, and since behaviour strategies can be applied in older preschoolers with poor language ability successfully, it ought to be possible to apply CBT for anxiety to younger children as well. We therefore present two cases of very young children with impairing anxiety (ages 26 and 35 months) and illustrate the combination of parent-only and parent-child CBT sessions that comprised their treatment. The treatment was well tolerated by parents and children and showed promise for reducing anxiety symptoms and improving coping skills.



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child's opportunity for increased autonomy, learning and social development.⁷ These avoidant strategies may initiate a trajectory where the child takes part in fewer and fewer activities, leading to social and academic dysfunction.⁸

Members of our research team began championing the idea of early intervention with young anxious children over two decades ago, with the aim of teaching children and their parents cognitive-behavioural strategies to manage anxiety before their symptoms became too debilitating.⁸ Although cognitive-behavioural therapy (CBT) has since emerged as the psychosocial treatment of choice for treating and preventing anxiety,^{9 10} at that time, most protocols that had been empirically tested were aimed at children ages 7 through early adolescence, with only a few enrolling children as young as age 6.¹¹ We developed and tested a parent-child CBT intervention (called 'Being Brave') and reported efficacy in children as young as 4 years.^{12 13} The treatment involved teaching parents about fostering adaptive coping and implementing graduated exposures to feared situations, and modelling how to teach children basic coping skills and conduct exposures with reinforcement. In parallel, a growing number of investigators confirmed that anxiety in preschoolers could be treated efficaciously using CBT administered either by training parents to apply CBT strategies with their children or through direct intervention with children.^{14 15} Early family-based intervention using cognitive-behavioural strategies was shown to reduce rates of later anxiety and to attenuate the onset of depression in adolescence in girls.¹⁶

The question remains as to whether early intervention can be extended even younger. With few exceptions,^{17 18} most investigators do not offer direct CBT for anxiety to children under age 3 or 4,¹⁵ and none to our knowledge have treated anxiety disorders with CBT in children under age 2.7.¹⁵



However, we reasoned that since toddlers can also present with impairing symptoms, and since behaviour strategies can be feasibly applied even in preschoolers with poor language ability,¹⁹ it ought to be possible to apply family-based CBT for anxiety to toddlers as well. We therefore present two cases of anxious children, ages 26 and 35 months, treated with parent and child CBT.

METHODS

Recruitment

Parents of children ages 21–35 months were recruited for a pilot intervention study (a maximum of three cases) using advertisements to the community. To be included, children had to be rated by a parent as above a standard deviation on the Early Childhood Behavior Questionnaire Fear or Shyness Scale²⁰ and could not have global developmental delays, autism spectrum disorder or a primary psychiatric disorder other than anxiety.

Assessment

Children were evaluated for behavioural inhibition using a 45 min observational protocol.²¹ Parents completed a structured diagnostic interview about the child (Kiddie Schedule for Affective Disorders and Schizophrenia—Present and Lifetime) that has been used with parents of children as young as 2 years;^{22 23} an adapted Coping Questionnaire,²⁴ in which parents assessed the child's ability to cope with their six most feared situations; and questionnaires assessing child symptoms (Child Behavior Checklist 1-1/2-5 (CBCL),²⁵ subscales from the Infant Toddler Social Emotional Assessment (ITSEA)²⁶), family function (Family Life Impairment Scale²⁷) and parental stress (Depression Anxiety Stress Scale²⁸). These assessments were repeated following the intervention, with the exception of the behavioural observation for the child initially rated 'not inhibited'. The clinician rated the global severity of the child's anxiety on a 7-point severity scale (Clinician Global Impression of Anxiety²⁹) at baseline and rated global severity and improvement of anxiety postintervention. Participant engagement in session and adherence to between-session assignments were rated by the clinician at each visit, and parents completed a post-treatment questionnaire rating the intervention.

Treatment

Children were treated by the first author, a licensed child psychologist, using the 'Being Brave' programme.¹³ It includes six parent-only sessions, eight or more parent-child sessions and a final parent-only session on relapse prevention. An accompanying parent workbook reinforces the information presented. Parent-only sessions focus on factors maintaining anxiety; monitoring the child's anxious responses and their antecedents and consequences; restructuring parents' anxious thoughts; identifying helpful/unhelpful responses to child anxiety; modelling adaptive coping; playing with the child in a non-directive way; protecting the child from danger

rather than anxiety; using praise to reinforce adaptive coping; and planning and implementing graduated exposure. Child-parent sessions teach the child basic coping skills; and focus on planning, rehearsing and performing exposure exercises, often introduced as games, with immediate reinforcement. All parent-child sessions were preserved from the original protocol, but two sessions teaching the child about the CBT model, relaxation and coping plans were omitted, as were two sessions in which the (older) child does a summary project and celebrates gains. Up to six child-parent sessions focusing on exposure practice were included.

RESULTS

In the cases that follow, identifying details are disguised to protect participants' privacy. Parents of both children provided written consent for the publication of de-identified case reports.

Case 1

Background information

J' was a 35-month-old girl, the third of three children of married parents. She had congenital medical problems requiring multiple surgeries, and she continued to undergo regular follow-up procedures. J met the criteria for separation anxiety disorder with marked severity, mild social phobia and mild specific phobia. Although she was able to attend her familiar day care if handed directly to a teacher and attend a gymnastics class with a friend while her mother waited in the hall, J showed great distress if apart from her mother at home. If her mother left her sight (eg, to use the bathroom), J would sob, cry and try to open the door to get in. If her mother went out and left her with a family member, J would fuss, cry and try to come along, and would continually ask to video-call her, so her mother would cut her outings short. J also had fears of doctors' visits, of riding in the car seat, and of walking independently up and down a staircase at home. She would approach new children only with assistance from her mother, and she was afraid to take part in gymnastics performances.

J also had some mood symptoms possibly related to her medical issues. She would intermittently have days when she was much more clingy, had uncharacteristically low energy, would want to be held, and would say 'ow, ow' if put down to stand. She also had difficulty staying asleep and would periodically wake up with respiratory difficulties.

Case 2

Background information

'K' was a 26-month-old boy, the only child of married parents. He met the criteria for moderate separation anxiety disorder. Although able to go to a day care he had been attending since infancy, he showed distress at drop-off particularly at the start of each week, crying for 15 min. He feared being apart from his mother in the house: he could not tolerate his mother leaving the room even to change

Table 1 Application of treatment protocol with both participants

CBT strategy	Participant 1 ('J')	Participant 2 ('K')
Length of treatment	6 parent-only sessions and 5 parent-child sessions at ages 36–39 months. Sessions included the mother only.	7 parent-only sessions and 3 child-parent sessions delivered at ages 26–29 months. Sessions included both parents.
Identification of treatment goals	To improve J's ability to walk up the steps alone, tolerate her mother being in a separate room, sleep in her own bed, stay in her car seat for more than 15 min, stay with her father while her mother went out and cope with doctors' visits.	To improve K's ability to tolerate his mother being in a separate room, mother leaving the house, mother dropping him off at day care and the drop-in centre at the gym, saying 'goodbye' to mother (instead of her slipping out unnoticed), and toys being put back in new places.
Psychoeducation about CBT model	Conducted in first parent-only session.	Conducted in first parent-only session.
Cognitive restructuring	Mother learnt to distinguish her anxious thoughts from appropriate concerns about medical issues. For child, staying in the car seat was reframed as "the car seat hugs me to keep me safe." Coping with medical procedures was reframed as (for ear exam) "it tickles and then it's all done"; (for taking oral medicine) "it's yukky, but then we get juice"; and (for injections) "1-2-3-it hurts and then it's all done and we get a Band-Aid."	For the child, coping with frightening situations was reframed as 'games': being in a separate room from his mother to hunt for toys was 'the hiding game'; practising saying goodbye to her mother was 'the goodbye game'; and putting objects in new places was 'the silly game'.
Modelling coping plans: coping includes recognising one's fear and anxious cognitions, making a plan to cope with them, and then feeling rewarded.	To cope with being in the car seat, J's mother would act out a princess doll having to go into the car seat in her carriage: "she feels scared (feeling), it's too tight (thought), but she can remember that the car seat hugs her to keep her safe (helpful thought) and she can look out the window and play 'I Spy' (coping action) and then it doesn't feel so bad (reward)."	To cope with waking in the night, the therapist used an in-session role play with Mr Potato Head figures to demonstrate the baby Potato waking in the night and feeling scared (feeling), singing 'Twinkle Twinkle', his usual bedtime song (coping action), and going back to sleep, and then earning a sticker the next morning (reward).
Non-directive 1:1 play*	Reviewed but not emphasised in session. Mother was already playing in a similar way with J.	Role-played in session with both parents and implemented 3x/week each with each parent. This increased K's enjoyment of playing 1:1 with his father.
Relaxation	Because J had physical tension at bedtime, her mother expressed interest in using relaxation with her. She guided J in tensing and relaxing muscles as a game, and J ultimately was able to use it to relax before bedtime.	Included in parent workbook, but not emphasised in session.
Exposure hierarchies: these were planned in session with the therapist, and implemented in the office and at home.	<p><i>To cope with going up stairs</i>, J's mother or sisters would place a desired toy on a step slightly out of J's reach, and encourage J to go up and get it, progressing to higher and higher (or for going down, lower and lower) steps.</p> <p><i>To cope with the car seat</i>, J's mother practised having her ride for progressively longer durations, while redirecting her with games or activities (eg, putting stickers on the back of the seat in front of her, playing 'I Spy').</p> <p><i>To cope with separation</i>, J's mother would leave the room while J counted (first to 10 and then higher) or sang (shorter and then longer) songs, to accustom her to 'being brave' apart from her mother for longer and longer intervals. J could decide in advance for how long her mother would stay out. Exposures progressed from having the door cracked to having it open, to having J play a game with a family member while her mother was behind a closed door. J's mother also stopped having her father allow her to 'face-time' with her mother when out, and this enabled J to tolerate being apart from her better (because her intermittent anxiety was not reinforced).</p> <p><i>To cope with medical visits</i>, the therapist used imaginal exposure, involving doll play and role plays with a toy medical kit to enact ear exams, taking oral medicine and shots, using coping plans and reinforcement.</p>	<p><i>To cope with separations</i>, K's mother played a 'hiding' game, where she would enter a room separate from K to hide stuffed toys, and then send K in alone to find them. K practised saying 'goodbye' to his mother as she sat on higher and higher steps in the playroom while he played with his father ('the goodbye game'). In the office K chose which person (mother, father or therapist) and then which two people left the room. Parents used similar strategies in getting him used to the drop-in centre at their gym.</p> <p><i>To address sleep</i>, K's parents helped him learn progressively to go to sleep independently at the start of the night so that he could be supported in doing so if he roused in the night (eg, placing him in his crib and singing his last bedtime song with him awake). They used the same plan if he roused in the night and stopped allowing him to come into their bed at night. Once K was coping better with night awakenings, a reward was offered in the morning for sleeping through the night.</p> <p><i>To practise putting things in the wrong place (deviations from routine)</i>, the therapist modelled and then had K try 'putting things in a silly place': for example, the wrong colour caps on markers, the markers in unusual places (eg, in the tissue box) and putting Mr Potato Head parts in the wrong openings. This game continued at home, including going on 'silly' paths for K's walk.</p>

Continued

Table 1 Continued

CBT strategy	Participant 1 ('J')	Participant 2 ('K')
Completion of treatment goals	J learnt to walk the stairs without anxiety, tolerate long rides in the car seat with redirection, and better tolerate separations from her mother (eg, allowing her mother to go to the bathroom, staying with her father while her mother went out, and performing in her gymnastics show independently). Her sleep was still being medically evaluated, so it was not worked on fully during the treatment.	K learnt to tolerate goodbyes from his mother in all settings, could easily play downstairs with his father while his mother was on a separate floor, could go to the drop-off centre at the gym and alone on outings alone with his father, and needed parental attention in the middle of the night less than once per month. He was starting to do better with deviations from routine.
Relapse prevention: parent meeting about keeping the work going.	Discussed how to cope with upcoming family stressors.	Discussed how to cope with upcoming transition to a toddler bed and giving up pacifier at night.

*This common component of many parent-child interventions (for example³¹) involves having the parent spend 5 min per day following the child's lead in play, narrating the child's actions, mirroring comments, praising specific behaviours, and refraining from giving instructions, criticisms or questions.

CBT, cognitive-behavioural therapy.

clothes and would cry if his mother left the playroom while K played with his father. He would get distressed if his father took him on outings without his mother. He could not be dropped off at a childcare centre at his parents' gym, leading to their avoiding exercise. He slept in his own crib, rocked to sleep by a parent, but would wake in a panic (alert but distressed) two to three times per month, crying for over an hour until his parents took him into their bed. K also was very particular about where objects were placed in the playroom and would fuss if they were put in the wrong place. He got anxious about deviations in routine (eg, taking a different path on a walk) and had trouble throwing things away (eg, used Band-Aids).

Intervention Feasibility and Outcomes

To demonstrate feasibility, the application of the treatment protocol with both participants is summarised in **table 1**. Both participants completed the treatment, in 11 and 10 sessions, respectively. For each, session engagement was rated 'moderately' or 'completely engaged' at all but one session, and homework adherence was rated as 'moderate work' to 'did everything assigned' at all but one session.

The quantitative results of the treatment are presented in **table 2**. Both children were rated by the clinician as having shown 'much improvement' (Clinician Global Impression of Anxiety-Improvement 1 or 2), and both showed changes in quantitative measures of anxiety and family function. In both families, parents rated their satisfaction with the treatment as 'extremely satisfied', and felt that they would 'definitely' recommend the intervention to a friend. They rated all strategies introduced in the intervention as 'very-' or 'moderately helpful' and rated the change in their ability to help their child handle anxiety as 'moderately-' to 'very much improved'.

DISCUSSION

These pilot cases demonstrate the feasibility and acceptability of parent-child CBT for toddlers with anxiety disorders. The two participating families completed the

treatment protocol and were consistently engaged with in-session exercises and adherent to between-session skills practice. The cases demonstrate that basic coping skills and exposure practice can be conducted with toddlers.

Although efficacy cannot be determined from uncontrolled case studies, the cases did show promising preliminary results. Both children showed a decrease in number of anxiety disorders, both were rated by the clinician (and parents) as either 'moderately-' or 'much improved' in their overall anxiety, and both showed increases in their parent-rated ability to cope with their most feared situations. Participant 2 improved on all symptom measures as well. Most significantly, his ITSEA general anxiety, separation distress, inhibition to novelty, negative emotionality, compliance and social relatedness scores and his CBCL total score, internalising score and somatic complaints scale score normalised from clinical to non-clinical range. Participant 1 had a more complicated clinical presentation, and whereas her diagnoses and coping scores improved, her parent-rated symptom scores were more mixed, perhaps related to medical problems which impacted sleep. Beyond changes in the children's behaviour, family life impairment was reduced for both families, and parental stress was decreased out of clinical range for participant 1. Notably, both children also showed gains in areas of competence, including prosocial peer relations and mastery motivation.

This work extends previous research demonstrating that very young children experience impairing levels of anxiety that are amenable to CBT. Previous studies have found that CBT is as efficacious with older preschool-age children with anxiety disorders as it is with school-aged youth,^{14 15} with approximately two-thirds of treated youth demonstrating clinically significant improvement. There is increasing recognition that anxiety disorders start early in childhood, and that there are significant advantages to intervening proximally to their onset, before anxiety symptoms crystallise and impairment accumulates. For example, one study of 1375 consecutive referrals (mean age 10.7) to a paediatric psychopharmacology clinic

Table 2 Quantitative changes in diagnoses, coping ability, symptoms and family function in both participants

Measure	Participant 1 (J)		Participant 2 (K)	
	Baseline	Post-treatment	Baseline	Post-treatment
Clinical and diagnostic measures				
CGI-Anxiety Improvement rated by clinician	-	2 (much improved)	-	1 (very much improved)
CGI-Anxiety severity	5 (marked)	3 (mild)	4 (moderate)	1 (not at all ill)
KSADS-PL diagnoses (meeting full criteria)	Separation anxiety disorder, specific phobia, social phobia	Specific phobia*	Separation anxiety disorder	No diagnoses
Coping Questionnaire: parent ratings of child's ability to cope with the 6–7 targeted fears worked on				
Mean coping ability†	2.57	4.86‡	2.36	5.93‡
ECBQ: measures of temperament				
ECBQ Fear	5.36	4.27‡	3.64	2.30‡
ECBQ Shyness	3.75	4.92	3.92	2.92‡
Infant-Toddler Social and Emotional Assessment: measures of social emotional problems and competencies				
Depression/withdrawal	0	0.22	0	0
Fear composite	1.50	1.33‡	1.33	0.67‡
General anxiety	0.25	0.13‡	1.23	0.37‡
Separation distress	2.00	1.67‡	2.00	1.33‡
Inhibition to novelty	1.00	1.60	1.60	0.60‡
Negative emotionality	0.54	1.00	1.15	0.46‡
Compliance	1.63	1.63	0.75	1.38‡
Mastery motivation	1.67	2.00‡	1.33	1.83‡
Empathy	2.00	2.00	1.14	1.71‡
Prosocial peer relations	1.60	2.00‡	1.00	2.00‡
Social relatedness	2.00	2.00	1.17	1.67‡
Child Behavior Checklist: parent-rated symptoms (T-scores)				
Emotionally reactive	50	59	62	50‡
Anxious /depressed	52	63	69	50‡
Somatic complaints	53	53	70 (clinical)	50‡
Withdrawn	50	50	60	50‡
Sleep problems	70 (clinical)	76 (clinical)	62	53‡
Attention problems	51	53	53	53
Aggressive behaviours	50	50	62	50‡
Internalising	47	58	68 (clinical)	37‡
Externalising	44	44	60	43‡
Total	50	55	65 (clinical)	40‡
Achenbach Caregiver Report Form (CRF): daycare teacher-rated symptoms (T-scores)				
Emotionally reactive	50	56	-§	-
Anxious depressed	51	50	-	-
Somatic complaints	50	50	-	-
Withdrawn	50	50	-	-
Attention problems	51	55	-	-
Aggressive behaviours	59	62	-	-
Internalising	41	44	-	-
Externalising	56	61	-	-
Total	51	56	-	-
Family Life Impairment Scale: measures negative and positive impact on family of child's symptoms				
Global family impairment	0.625	0.125‡	0.25	0‡

Continued

**Table 2** Continued

Measure	Participant 1 (J)		Participant 2 (K)	
	Baseline	Post-treatment	Baseline	Post-treatment
Family restriction	0.6	0‡	0.2	0‡
Family inflexibility	0	0.5	0.5	0‡
Social impairment/exhaustion	1	1	0.25	0‡
Parental growth	1	0.8	0.8	0
Depression Anxiety and Stress Scale: measures parent's symptoms (rated by mother for participant 1 and father for participant 2)				
Parental anxiety	4	3‡	0	0
Parental depression	1	0‡	0	0
Parental stress	17	11‡	0	2

*Separation anxiety disorder and social phobia were in partial remission, that is, not meeting full criteria but still showing subthreshold symptoms.

†Rated on a 7-point Likert scale ranging from 1=not at all able to help himself/herself to 7=completely able.

‡Indicates change in the direction of improvement.

§CRF not available because daycare worker did not read English well enough to complete it.

CGI, Clinician Global Impression; ECBQ, Early Childhood Behavior Questionnaire; KSADS-PL, Kiddie Schedule for Affective Disorders and Schizophrenia-Present and Lifetime.

found that the median age of onset of a child's first anxiety disorder was 4 years.³⁰ Children seeking treatment for anxiety often present in middle childhood, for symptoms which began much earlier, exposing the child and family to undue stress for years. By teaching parents and very young children skills to manage anxiety, we hope to give families important tools to navigate the developmental transitions inherent in this age range, and to help children develop a sense of mastery during a critical developmental period. Of course, a larger controlled trial is needed to further evaluate this intervention and its efficacy over time.

Assessing and treating toddlers require a developmentally informed approach. Anxiety and other symptoms may present differently in younger children, and because of limited language and cognitive abstraction capabilities toddlers are not as able to describe their fears and worries. Because some forms of anxiety (eg, separation anxiety, stranger anxiety) are normative, determination of clinically significant levels of anxiety requires an understanding of typical development in toddlerhood and the ability to conduct a detailed assessment with parents and the child using measures normed for this age group (such as the ITSEA and CBCL 1-1/2-5). Similarly, implementing CBT with toddlers and preschoolers requires age-appropriate modifications of empirically supported techniques. The adaptations we used included increased parental involvement in planning exposures, decreased focus on child cognitive restructuring (beyond framing the practice as 'being brave' and redirecting the child's attention to rewarding aspects of the situation), and adaptations to exposure exercises to maximise child participation and motivation (practising at times when the child was rested and not irritable, incorporation of games and reinforcers, and allowing the child maximal choice about when/how to carry out the exposure). The cases we presented demonstrate that existing interventions can be effectively adapted and implemented with children

as young as 2 years of age. By sharing the information gleaned from our research, we hope to inform providers who may be less familiar with treating children in this age range and increase their confidence in intervening with very young children.

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Contributors DRHB designed the study with input from ASC, AH and TEW. DRHB developed the intervention and treated the cases, and DRHB, SJR and AH collected, scored, analysed and tabulated the data. DRHB wrote the first draft of the manuscript, SJR drafted parts of the Results section, and AH made significant additions to the Discussion section. AH, ASC and TEW revised the manuscript critically for important intellectual content. DRHB incorporated all of their edits and finalised the document. All authors approved the final version and are accountable for ensuring accuracy and integrity of the work.

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