

Shorter communication

Parents' perceptions of pharmacological and cognitive-behavioral treatments for childhood anxiety disorders

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Abstract

Cognitive-behavioral therapy (CBT) and pharmacotherapy are the most well-established treatments for childhood anxiety disorders. This study examined how parents ($N = 71$) seeking treatment for their child's anxiety disorder perceive the acceptability, believability, and effectiveness of these treatments. While both treatments were perceived favorably, CBT was rated as more acceptable, believable, and effective in the short- and long-term. Children's treatment history influenced parents' perceptions of pharmacotherapy, with parents of children with no treatment history perceiving medication treatment as less acceptable and believable than parents of children with a history of medication alone or in combination with behavior therapy. No effect of treatment history was found for perceptions of CBT. Significant positive correlations emerged between parents' perceived acceptance and believability for pharmacotherapy and child age and level of dysfunction due to their child's anxiety, respectively. The level of the child's anxiety was not significantly correlated with parents' perceptions of either CBT or pharmacotherapy. Our results suggest that parents of anxious children prefer CBT to medication for the treatment of their child's anxiety disorder. Directions for future research are discussed.

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Introduction

Randomized controlled trials have increasingly established the efficacy of two distinct treatment modalities for childhood anxiety disorders: pharmacotherapy and cognitive-behavioral psychotherapy (CBT; Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Pediatric OCD Treatment Study Team, 2004; The Research Unit on Pediatric Psychopharmacology Anxiety Study Group, 2001). While both are effective, these modalities involve dissimilar approaches to conceptualization and treatment. While

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pharmacotherapy is most consistent with biological models that implicate neurotransmitter dysregulation, CBT is derived from cognitive (e.g., Beck, Emery, & Greenberg, 1985) and learning (e.g., Mowrer, 1960) models that emphasize the role of conditioning experiences, avoidance behaviors, and inaccurate appraisals of threat. Understandably, these two modalities also make for very different therapeutic experiences for children and their parents. The present study is concerned with how parents of children with an anxiety disorder view various aspects of these two treatments.

Recent trends in health care have highlighted the need to understand patients' and parents' perspectives of treatment. To begin with, respect for patients' preferences has been highlighted by the president of the American Psychological Association as an important area of assessment (American Psychological Association, 2005). When treating children, this concern extends to parents who are increasingly encouraged to play an active role in making decisions about their child's healthcare (Breeding & Baughman, 2003). In fact, the effectiveness of care may be positively affected by assessing parent preference. Research with depressed adolescents suggests that treatment outcome may be enhanced when parents positively perceive their child's treatment (e.g., Brent et al., 1997). In addition, many have argued that treatment adherence and maintenance of behavior change is improved when parents consider the treatment acceptable for their child (Frentz & Kelley, 1986; Miller & Kelley, 1992). Although the use of pharmacotherapy among child populations continues to rise (Zito et al., 2003), little empirical information about parents' perceptions of pharmacotherapy exists. Unfortunately, the increase in pharmacotherapy may have little to do with parents' preference for pharmacotherapy, but rather be related to parents' reported pressure to comply with medication recommendations for their child (Hearn, 2004) and the outpouring of advertisements for pharmacotherapy from various media sources. Thus, a clearer understanding of how parents perceive the different approaches to conceptualizing and treating their anxious child's symptoms may improve the clinical management of these problems.

To date, most studies examining treatment perceptions and preference in the area of child and adolescent psychopathology have focused on various disruptive behavior problem populations (e.g., ADHD, externalizing problems; Kazdin, 1980; Rostain, Power, & Atkins, 1993), and less is known about treatment perceptions for internalizing disorders, particularly anxiety. Studies of parents who have children with externalizing disorders (e.g., oppositional defiant disorder, conduct disorder) have generally found a greater acceptance of CBT than medication to treat disruptive behaviors (Kazdin, 1984; Miller & Kelley, 1992). In one study that compared parents' rankings of several child behavior management strategies, medication was ranked similarly to spanking with both considered significantly less acceptable than reinforcement-based interventions (e.g., positive reinforcements, time out; Miller & Kelley, 1992). Studies of parents who have children with ADHD found that a child's history of medication use was related to a greater likelihood to pursue medication, and a history of counseling was slightly related to a greater likelihood to pursue both medication and counseling (Rostain et al., 1993).

In concert with the externalizing literature, the few studies on treatment perceptions and preferences of parents of children with internalizing disorders have demonstrated that parents tend to endorse more positive perceptions of, and a preference for, CBT compared to medication (Dudley, Melvin, Williams, Tonge, & King, 2005; Tarnowski, Simonian, Bekeny, & Park, 1992). Only one study has investigated treatment perceptions of parents whose children have an anxiety disorder. In that investigation, Chavira, Stein, Bailey, and Stein (2003) focused solely on parents' perceptions of treatment for socially anxious children who were recruited from a pediatric primary care setting. Findings revealed that parents reported favorable attitudes toward CBT and neutral beliefs about medication. Examining the moderating effect of child treatment history, researchers found that parents whose children had used medication in the past, or were using it at present, reported more favorable attitudes toward medication for treating their child's social anxiety. Further, parents whose children had a history of CBT reported more favorable attitudes toward both CBT and medication use. Interestingly, greater severity of the child's social anxiety did not significantly relate to parents' treatment acceptance of either medication or CBT. While this study provides a helpful initial investigation into treatment perceptions of parents with anxious children, it is limited by its exclusion of other anxiety disorders (e.g., OCD, GAD) and by the fact that it was conducted in a non-mental health facility.

In summary, despite a growing body of literature in this area, much remains to be understood about parents' treatment perceptions and preferences. To this point, we know that parents tend to endorse greater

acceptance and a preference for CBT as compared to medication for both externalizing and internalizing disorders; however, variables such as children's treatment history appear to influence parents' perceptions. Little is known about perceptions other than parental acceptance of CBT and medication; other important parameters (e.g., perceived believability and effectiveness) that have received attention in adult literature (Deacon & Abramowitz, 2005; Walker, Vincent, Furer, Cox, & Kjernisted, 1999) have not been studied. Existing literature examining specific perceptions of parents of children with anxiety disorders is particularly sparse. To address limitations of previous research, the present study investigated parents' perceptions of and preferences for pharmacotherapy and CBT for childhood anxiety. On the basis of previous research, we hypothesized that parents would perceive CBT more favorably than medication, and would prefer CBT as the treatment of choice for their child. We also explored the moderating effects of their child having participated in pharmacotherapy and psychotherapy on perceptions of these treatments. Lastly, we explored associations between parents' treatment perceptions and other potentially related variables (i.e., child age, anxiety severity level, and parent-reported level of interference caused by child's anxiety).

Method

Participants

Seventy-one parents, mainly mothers (78%), of children being evaluated in a Child & Adolescent Anxiety Disorders Clinic in a large midwestern medical center participated in the present study. All children presented with an anxiety disorder as their principal diagnosis. Twenty-seven (38.0%) had a principal diagnosis of OCD, 10 (14.1%) had GAD, 9 (12.7%) had separation anxiety disorder, 7 (9.9%) had social phobia, 4 (5.6%) had specific phobia, 1 (1.4%) had panic disorder, and 13 (18.3%) had other anxiety disorders (e.g., anxiety disorder, NOS). Axis I comorbidity was relatively common (54.9%), and many children had multiple anxiety diagnoses (39.4%) or an additional diagnosis of mood disorders (11.3%). Children ranged from 5 to 18 years old ($M = 12.09$ years, $SD = 3.45$), and 39.4% were female. A majority of the parent participants were married (80.3%) and had at least a 2-year college degree (91.2% mothers, 79.4% fathers). The sample was predominantly Caucasian (94.1%).

Data on treatment history were collected during the assessment process. Parents were asked (yes, no) whether their child had previously received, or was currently receiving, behavior therapy (BT), medication, or "other" therapy for an anxiety disorder or other mental health problem. As per parent reports, 18 children (25.4%) had only been treated with medication either currently or in the past. Five children (7%) had only participated in BT, and 23 children (32.4%) had received both medication and BT. Twenty-five children (35.2%) had not received any treatment.

Setting and procedure

All children were evaluated in a child anxiety disorders center within a large Department of Psychiatry and Psychology that is recognized for both cognitive-behavioral programs and biological approaches. Forty-six parents and children were evaluated by a Ph.D.-level psychologist or a Master's-level therapist who specialize in providing both consultative and treatment/follow-up services. The remaining 25 parents and children were evaluated in a multidisciplinary, specialized child anxiety disorders assessment clinic that is staffed by a psychiatrist and a Ph.D.-level psychologist. Children were referred from a wide variety of sources including self-referral, physicians, and mental health professionals with the goal of obtaining diagnostic clarification and treatment recommendations. Although some children were referred specifically for medication or for CBT, most were referred for evaluation and/or treatment without regard to its approach.

Diagnostic and assessment procedures were as follows: All patients received a 90-min clinical interview conducted with the child and one or both parents. For patients seen in the general anxiety program, the interview was conducted by a doctoral-level licensed psychologist or a trained Master's-level psychologist under the supervision of a doctoral-level psychologist. The patient's diagnosis was determined based on information gathered during the interview. For patients seen in the specialty assessment clinic, the evaluation was conducted by a child psychiatrist. In addition, a licensed psychologist administered the *Anxiety Disorders*

Interview Schedule for DSM-IV-Child Version (ADIS-C; Silverman & Albano, 1996) to the child and parent(s) together as it was not possible to administer the parent and child version separately due to constraints of time and resources. The ADIS-C is a semi-structured diagnostic interview designed for use with DSM-IV childhood anxiety disorders. Adequate psychometric properties have been established (Silverman & Nelles, 1988). Although inter-rater reliability for the principal diagnosis was not formally examined, all assessors met together to discuss diagnostic impressions, case conceptualization, and to formulate a treatment plan for each patient.

Materials

Treatment Perceptions Questionnaire-Parent Version (TPQ-P): As part of the evaluation, parents completed a survey adapted by Deacon and Abramowitz (2005) from Walker et al. (1999). The survey was further modified for use with parents of child patients to assess parents' perceptions of pharmacotherapy and CBT for childhood anxiety. The TPQ-P includes descriptions of treatment procedures, advantages and disadvantages, theoretical rationale, and proposed mechanism of action for each treatment (see Appendix A). Following each description, parents rate each treatment's acceptability, believability, and short- and long-term effectiveness on a scale from 0 (e.g., not at all acceptable, believable, or effective) to 8 (e.g., very acceptable, believable, or effective). These parameters were selected based on their use in previous preference studies (Deacon & Abramowitz, 2005; Walker et al., 1999) and their similarity to constructs that have been found to be important in studies of treatment outcome and adherence (Brent et al., 1997; Frenz & Kelley, 1986; Miller & Kelley, 1992). In addition, parents rate whether they would prefer each treatment as their first choice, second choice, not at all, or whether they do not have a preference. Descriptions of both treatments were similar in content, length, and format, and were deemed accurate and unbiased by independent reviewers (staff psychologists and psychiatrists) with expertise in CBT and pharmacological treatment. The descriptions were presented in counterbalanced order to reduce the likelihood of an order effect. A complete version of the TPQ-P may be obtained by contacting the first author.

Spence Children's Anxiety Scale for Parents (SCAS-P; Nauta et al., 2004): Parents also completed the SCAS-P, which is a 44-item, Likert-type, self-report questionnaire designed to measure parents' report of anxiety in children and adolescents. The SCAS-P yields a total anxiety score and six basic subscales: panic attacks and agoraphobia, separation anxiety, physical injury fears, social phobia, obsessive-compulsive, and generalized anxiety. Internal reliability coefficients have provided evidence for internal consistency of the subscales, ranging from .80 to .90 for a normal sample and from .83 to .92 for a clinical sample (Nauta et al., 2004).

Modified Sheehan Disability Scale (mSDS; Sheehan, 1986): The mSDS is based on the commonly used 3-item measure of the degree to which clinical symptoms interfere with work, social/leisure activities, and family/home responsibilities. This scale was adapted to be completed by the patient's parent. The parent provided two ratings for each area (work, social, home). First, the parent rated the degree to which the symptoms interfered with the patient's life, and, secondly, the degree to which the child's symptoms interfered with the parent's life.

Results

Preliminary analyses

We examined the interrelationships between the TPQ-P items to determine the extent to which they assessed separate dimensions of treatment perceptions. The four CBT items were significantly related to each other, with correlations ranging from .66 (acceptability and short-term effectiveness) to .90 (acceptability and believability). Similar results were found for the four medication treatment items, with correlations ranging from .71 (believability and short-term effectiveness) to .83 (acceptability and believability). The magnitude of correlations between items from the CBT scale and items from the medication scale were generally small (r 's ranged from .15 to .47; mean = .32). Although correlations for items within treatment type were large, each item is considered to have theoretical significance. Accordingly, the TPQ-P items were analyzed separately rather than as a single composite score.

Parents' perceptions of medication and CBT by children's treatment history

To explore parents' treatment perceptions and the potential moderating effects of their children's treatment history on their perceptions, we conducted a series of 2 (treatment modality: CBT, medication) \times 4 (treatment history: no treatment history, medication only, CBT only, both medication and CBT) mixed analyses of variance (ANOVA) for each treatment characteristic (acceptability, believability, short-term effectiveness, long-term effectiveness). Means, standard deviations, and results of these analyses are presented in Table 1. Missing data were excluded from these analyses.

Results from each ANOVA yielded significant main effects for treatment modality with respect to each treatment characteristic. Inspection of the mean scores shows that, compared to medication, parents rated CBT as more acceptable, more believable, and more likely to be effective in the short- and long-term for their children. Main effects of treatment history were evident for acceptability, believability, and long-term effectiveness. Post-hoc univariate tests revealed that parents whose children had a history of taking medication, either alone or in combination with CBT, had more favorable perceptions of the acceptability and believability of treatment in general (medication and/or BT) than parents whose children had no treatment history of either medication or CBT (p 's < .01). Further, parents whose children had a history of treatment with both medication and CBT had more favorable perceptions of the long-term effectiveness of treatment in general than parents whose children had no treatment history, p < .01. There was no main effect of treatment history for short-term effectiveness.

A significant modality \times treatment history interaction was found for acceptability (p < .01), and a trend was found for believability (p = .08). Significant main effects of treatment history for these characteristics are best interpreted in terms of these interactions. Univariate analyses of variance with least significant difference post-hoc tests demonstrated that parents whose children had no treatment history perceived medication treatment as less acceptable, $F(3, 64) = 10.64$, p < .01, and less believable, $F(3, 64) = 6.55$, p < .01, than parents whose children had a history of taking medication, either alone or in combination with CBT. In contrast, treatment history of the child did not differentiate parents' ratings of acceptability or believability of CBT. That is, regardless of their child's previous treatment, all parents' ratings of the acceptability and believability of CBT were essentially equivalent.

Table 1
Parents' ratings of CBT and medication treatment for anxiety disorders by child's treatment history

Characteristic and modality ^a	All patients ($n = 71$)	No treatment ($n = 25$)	Medication only ($n = 18$)	CBT only ($n = 5$)	Combined treatment ($n = 23$)	Main effect of modality	Main effect of history	Modality \times history interaction
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	$F(1, 64)$	$F(1, 64)$	$F(3, 64)$
Acceptability						30.85***	8.91***	5.34**
Medication	5.57 (2.43)	3.88 (2.17)	6.72 (1.90)	4.40 (2.30)	6.81 (1.91)			
CBT	7.10 (1.57)	6.50 (1.96)	7.28 (1.36)	7.80 (0.45)	7.10 (1.57)			
Believability						10.42**	5.82***	2.37
Medication	6.12 (2.15)	4.79 (2.36)	7.17 (1.25)	5.80 (1.48)	6.81 (1.91)			
CBT	7.01 (1.52)	6.46 (1.82)	7.39 (1.29)	7.00 (1.41)	7.33 (1.24)			
Short-term eff.						4.52*	1.27	1.22
Medication	5.48 (2.22)	4.65 (2.31)	6.12 (2.03)	5.00 (0.82)	5.95 (2.25)			
CBT	6.22 (1.77)	6.09 (1.78)	6.47 (1.74)	6.25 (1.26)	6.14 (1.96)			
Long-term eff.						11.30***	2.86*	1.80
Medication	5.22 (2.27)	4.13 (2.26)	5.56 (2.39)	5.00 (0.82)	6.19 (1.94)			
CBT	6.69 (1.72)	6.48 (2.15)	6.94 (1.34)	5.75 (0.96)	6.90 (1.72)			

* p < .05, ** p < .01, *** p < .001. All F -tests were two-tailed. CBT = cognitive-behavioral therapy.

^aRated from 0 to 8.

Correlations with other variables

Table 2 displays correlation coefficients between measures of treatment perception and the child's age, SCAS-P, and mSDS. Significant correlations were found between parents' perceptions of medication acceptance and believability and child age. This indicates that parents perceived medication as more acceptable and believable for their child's anxiety as their child's age increased. No further significant correlations emerged between parents' perceptions of medication and child age. In addition, no significant correlations emerged between parents' perception of CBT and child age. Correlations between parents' treatment perceptions and child anxiety severity as per the SCAS-P were also non-significant. Correlational analyses examining relations between parents' treatment perceptions and their dysfunction ratings as per the mSDS were significant. Specifically, parents who endorsed greater interference in their and their child's life due to the child's anxiety reported greater acceptability and believability for medication. Interference was not significantly correlated with perceptions of CBT.

Treatment preferences

Of those that responded, substantially more parents indicated a preference for CBT as their first choice (54.5%) compared to medication (7.3%) and a combination of medication and CBT (38.2%). This difference was statistically significant, $\chi^2(2) = 19.02, p < .001$. Few parents (4.7%) indicated no preference for either mode of treatment. While no parents indicated that they would prefer their child not to have CBT, 9 (15.3%) indicated that they would prefer to not include medication in their child's treatment.

Sample bias

Due to concerns of a potential selection bias among parents of children evaluated primarily by a psychologist as compared to parents of children evaluated in the multidisciplinary, specialty clinic, independent samples *t*-tests were conducted to assess differences in the ratings of medication and CBT obtained from parents in each setting. No significant differences emerged. To further assess a potential bias, we conducted paired *t*-tests comparing perceptions of medication and CBT, first with all participants and then with only parents of children referred to the multidisciplinary, specialty clinic. Results from the paired *t*-tests conducted with the entire sample were identical to the main effects found with the ANOVAs reported above, and indicated higher ratings of CBT than medication. Similarly, paired *t*-tests with the specialty clinic sample yielded trends in the same direction for acceptability, $t(23) = 1.88, p = .07$, believability, $t(23) = 1.44, p = .16$, and long-term effectiveness, $t(21) = 2.07, p = .05$. However, for short-term effectiveness, parents of children referred to the specialty clinic rated both treatment modalities equally effective in the short-term, $t(21) = .76, p = .45$.

Table 2
Correlations for parental perceptions of medication and child age and child anxiety severity

Treatment characteristics	Child age in years	SCAS-P total score	Dysfunction (mSDS)
Medication acceptance	.27*	.18	.40**
Medication believability	.34**	.11	.30*
Medication short-term effectiveness	.12	-.02	.21
Medication long-term effectiveness	.11	.09	.17
CBT acceptance	.07	.05	.11
CBT believability	.02	.11	.16
CBT short-term effectiveness	.03	.01	-.04
CBT long-term effectiveness	.00	-.09	.01

* $p < .05$, ** $p < .01$.

Discussion

The present study investigated how parents seeking treatment for their child's anxiety disorder view the two most well-established treatments for their child's condition. This study addressed gaps in the existing literature by being the first to assess treatment perceptions of parents of clinically referred anxious children and including children with a variety of anxiety disorders. Previous research had also neglected to assess multiple parameters of treatment preference (i.e., acceptance, effectiveness, etc.) that are considered important to parents' decision-making process when determining the right approach for their child's anxiety. Our results indicate that both medication and CBT were generally perceived as acceptable, believable, and effective. More specifically, consistent with our hypothesis, parents perceived CBT as more acceptable and believable than medication, and more likely than medication to be effective in the short- and long-term. In addition, parents were more likely to rate CBT as their first choice over pharmacotherapy despite the fact that a greater percentage of their children had a history of medication use than a history of psychotherapy (57.7% vs. 39.4%); and despite the fact that a history of medication use was associated with more favorable perceptions of pharmacotherapy. On the other hand, a child's treatment history was largely unrelated to perceptions of CBT.

Generally in line with adult research, our findings suggest that parents seeking treatment for their child's anxiety disorder view cognitive-behavioral treatment for childhood anxiety disorders as more acceptable, credible, and effective in both the short- and long-term in comparison to pharmacotherapy. These findings are consistent with past studies demonstrating parents' greater acceptance of and preference for behavioral child interventions (e.g., reinforcement-based approach) over biological (e.g., medication) and intrusive (e.g., punishment) interventions (McMahon & Forehand, 1983; Tarnowski et al., 1992). In particular, findings are consistent with the one previous study in which parents of socially anxious children endorsed more favorable attitudes toward CBT compared to medication (Chavira et al., 2003). It should be noted, however, that while parents' ratings for medication were significantly lower than those for CBT, their mean for each treatment characteristic fell above the midpoint of the scale (e.g., "moderately acceptable"). Thus, while parents endorsed more favorable perceptions and a preference for CBT, their ratings for medication produced at least moderate levels for each characteristic (acceptance, believability, short-term effectiveness, long-term effectiveness).

In the present study, a history of medication use among children was strongly associated with parents' perceptions of pharmacotherapy. Parents of children with no medication history reported substantially less favorable views of the acceptability and believability of pharmacotherapy as compared to parents of children who had received pharmacotherapy. Our findings suggest that experience with medication might lessen concerns about its adverse effects. Alternatively, it is possible that parents with favorable views of medication are also more willing to allow their child to receive this treatment. In contrast to medication treatment, perceptions of CBT were unrelated to participation in either pharmacotherapy or psychotherapy. Taken together, our results indicate that whereas most parents hold favorable views of CBT, perceptions of pharmacotherapy tend to vary depending on a child's treatment history.

Analyses examining associations between child and parent variables and parents' perceptions yielded inconsistent results. While the severity of the child's anxiety symptomatology was largely unrelated to parents' treatment perceptions, the level of interference and the age of the children in the present study were positively related to parents' perceptions of the acceptability and believability of medication. The former results are somewhat surprising given that previous studies have found parents' willingness to enlist their child in various treatment modalities to increase with child symptomatology (e.g., Bennett, Power, Rostain, & Carr, 1996). It appears that the level of interference has a greater influence on parents than anxiety severity. This may reflect the fact that anxiety symptoms per se are less intrusive on parents than externalizing symptoms, such as non-compliance, and thus may not exude as much of an effect on their treatment perceptions.

Finally, the current study suggests that parent's perceptions of medication become more favorable with older children. To our knowledge, this is the first study to examine this relationship for anxious children. Although the current study cannot address the beliefs driving this correlation, one can speculate that parents may be more concerned with potential negative effects of medication on development with younger children. In summary, findings from this study are consistent with others that demonstrate a preference

for CBT and suggest that CBT should be discussed as an option when treatment for childhood anxiety is offered.

Several limitations of the present study should be acknowledged. First, while we did not find significant differences between treatment perceptions of parents of children being evaluated solely by a psychologist and of those being evaluated by both a psychiatrist and psychologist, we recognize that a selection bias may be present. Parents of children evaluated in a multidisciplinary clinic may be more amenable to medication treatment. However, findings from paired *t*-tests involving only parents from the specialty clinic yielded similar trends to those involving all parent participants, thus providing some evidence that, regardless of whether the child was evaluated by a psychologist or by both a psychologist and a psychiatrist, parents favor CBT over medication. The extent to which our findings are generalizable to parents who seek help for their child's anxiety in medical settings (e.g., primary care) is still unknown and should be studied further. It is possible that a more noticeable bias exists in settings where one treatment modality predominates. Second, we did not assess the potential effect of the referral agency on parents' perceptions. That is, information from the referral agency to justify their referral may influence parents' attitude toward treatments. A third limitation pertains to the TPQ-P. Although a similar version has been used in previous research, the psychometric properties of the TPQ-P are unknown. Fourth, we did not obtain children's ratings, so their treatment perceptions and preferences are unknown. Fifth, a majority of parent participants in the present study have a college degree and are Caucasian. Therefore, it is uncertain to what extent the findings generalize to parents from other backgrounds. Finally, our sample size was small, with an especially small cell size for parents of children with a history of BT only. As such, our power may not have been sufficient to identify some group differences.

The next step in this line of research is to examine relationships between treatment preferences of parents and children and clinical variables such as the decision to enter treatment, attrition, compliance, and outcome for children with anxiety disorders. Future studies should attempt to include more parents of children with only a history of BT, given that this subgroup was especially small in this study. Additionally, potential mediators of the relationship between treatment history and treatment perceptions, such as perceived effectiveness of previous interventions and attitudes underlying parents' treatment perceptions, should be explored. In addition, parent variables, such as their own anxiety and treatment history, need further attention. Studies in this area could also benefit from the psychometric validation of measures that assess (a) patient perceptions and preferences, and (b) beliefs about the etiology of the patient's disorder, the necessity of particular treatments, and concerns about the potential adverse effects of the treatments. Related areas for further study concern factors that contribute to the development of parents' beliefs about the cause of their child's anxiety disorder and whether their beliefs differ depending on the anxiety disorder present. Overall, research in this area has clear implications for clinical practice as it can serve to inform treatment providers about whether it is most advantageous to match a child's treatment to their parent's preference, persuade parents to accept one treatment modality over another, or combine treatment methods.

Appendix A. Medication treatment for childhood anxiety disorders

This treatment is provided by a psychiatrist or family doctor who provides information about childhood anxiety disorders, how it develops, and how it is treated. Most medications for childhood anxiety disorders work by changing levels of serotonin. Serotonin is a chemical found in various parts of our bodies including the brain. The medication is started at a low dose and then gradually increased until the anxiety symptoms are significantly reduced. As children feel better, they are encouraged to resume their normal activities. It is important to take the medication regularly as prescribed—not just when feeling anxious or worried. The medication usually takes several weeks to produce some improvement but often people feel reassured just to be starting treatment.

Duration of treatment

Appointments are usually scheduled regularly at first and then less frequently as time goes by. Once anxiety symptoms are reduced or eliminated, the medication is usually continued for at least 6 months.

Advantages

- (a) Medication has been found to be effective in reducing anxiety disorders symptoms for many children.
- (b) The medication may be prescribed by your psychiatrist or family doctor so it is usually quickly and conveniently arranged.
- (c) For many children, the medication can be taken once each day rather than several times each day.
- (d) If the person also has problems with depression, the medication can help with this problem also.
- (e) Most medications used to treat childhood anxiety are not habit forming.

Disadvantages

- (a) Medications for anxiety sometimes have side effects (e.g., nausea). Often these wear off after the first few weeks of treatment.
- (b) Women should not become pregnant when taking medication for anxiety disorders.

Psychological treatment for childhood anxiety disorders

A psychologist or behavior therapist usually provides psychological treatment for childhood anxiety disorders. The treatment is called cognitive-behavior therapy, and it works by helping children to break certain habits that lead them to feel very anxious. The therapist provides information about childhood anxiety disorders, how they develop, and how they are treated. In the early part of treatment, the child gathers information about what situations or thoughts make them become anxious. Then the child learns strategies to change anxious thoughts, manage anxiety, and face their fears. In addition, parents are involved in treatment and learn strategies for effectively supporting their child. The treatment usually takes several sessions to produce improvement, but often children feel reassured just to be starting treatment.

Duration of treatment

Treatment typically consists of between 12 and 16 one-hour sessions at least once each week. Once the anxiety symptoms are reduced or eliminated, the child is encouraged to continue to use their new coping methods for a number of months.

Advantages

- (a) The treatment has been found to be effective with many children.
- (b) The treatment can be tailored to the child's specific anxiety disorders problems and experiences.
- (c) At times, it is possible to work on other life problems and goals in therapy.
- (d) If the child has additional problems with depression, the treatment can help with this problem also.
- (e) The child can apply coping strategies learned in treatment to other problems in the future.

Disadvantages

- (a) This approach takes considerable time and effort.
- (b) During some parts of the treatment, children may experience temporary anxiety as they practice facing situations that are difficult for them.

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