A Follow-up Study of a Multisite, Randomized, Controlled Trial for Children With Sexual Abuse–Related PTSD Symptoms

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ABSTRACT

Objective: To ascertain whether the differential responses that previously have been found between trauma-focused, cognitive-behavioral therapy (TF-CBT), and child-centered therapy (CCT) for treating posttraumatic stress disorder (PTSD) and related problems in children who had been sexually abused would persist following treatment and to examine potential predictors of treatment outcome. **Method:** A total of 183 children 8 to 14 years old and their primary caregivers were assessed 6 and 12 months after their posttreatment evaluations. **Results:** Mixed-model repeated analyses of covariance found that children treated with TF-CBT had significantly fewer symptoms of PTSD and described less shame than the children who had been treated with CCT at both 6 and 12 months. The caregivers who had been treated with TF-CBT also continued to report less severe abuse-specific distress during the follow-up period than those who had been treated with CCT. Multiple traumas and higher levels of depression at pretreatment were positively related to the total number of PTSD symptoms at posttreatment for children assigned to the CCT condition only. **Conclusions:** Children and caregivers assigned to TF-CBT continued to have fewer symptoms of PTSD, feelings of shame, and abuse-specific parental distress at 6- and 12-month assessments as compared to participants assigned to CCT. *J. Am. Acad. Child Adolesc. Psychiatry*, 2006;45(12):1474–1484. **Key Words:** child sexual abuse, follow-up, cognitive-behavioral therapy, posttraumatic stress disorder, childhood trauma.

Numerous studies have found that child sexual abuse (CSA) is not only associated with a plethora of emotional and behavioral problems that emerge during childhood (Mannarino et al., 1994; McLeer et al., 1992), but also with symptoms of emotional distress that persist into adulthood, especially those indicative of a posttraumatic stress disorder (PSTD; Putnam, 2003). Because children who have suffered CSA are at high risk of developing long-term difficulties, Cohen et al. (2004a) conducted a study examining the efficacy of 12 sessions of trauma-focused, cognitive-behavioral therapy (TF-CBT; Deblinger and Heflin, 1996) with 12 sessions of client-centered therapy (CCT; Cohen and Mannarino, 1996a) for children who were exhibiting posttraumatic stress symptoms and related emotional and behavioral problems as a result of sexual abuse. Children in this investigation met at least five criteria for sexual abuse–related *DSM-IV*–defined PTSD, including at least one symptom in each of the three PTSD clusters (reexperiencing, avoidance, and hyperarousal). Although the index trauma was sexual abuse, more than 90% of this cohort of 8- to 14-year-old children had experienced multiple traumas. All of their outcome measures, except parental support, for both

types of treatment significantly improved from pre- to posttreatment (12 weekly sessions). The original study also found that at the posttreatment assessment, children and caregivers assigned to TF-CBT experienced significantly greater improvements with respect to PTSD, depression, behavior problems, shame, and dysfunctional abuse attributions as well as parental depression, parental abuse–specific distress, parenting practices, and parental support as compared with those assigned to the CCT condition.

The purpose of the present study was to ascertain whether there were additional changes in the outcome measures beyond the posttreatment assessment and whether treatment condition continued to predict differential adjustment during the follow-up phase. Furthermore, this investigation examined potential predictors of treatment responsiveness within each condition because one treatment or the other may be preferable for children with certain background or clinical presentations. This was of particular interest given the clinical concerns that some subgroups of children may be overwhelmed by the structure and relative fast pace of TF-CBT. The selected variables for predicting PTSD improvement were the child's sex, race, age, relationship to the perpetrator, total number of traumas experienced before treatment, and pretreatment scores on the other psychological measures. These variables were chosen based on prior research suggesting their potential for influencing postabuse adjustment (Felliti et al., 1998; Kendall-Tackett et al., 1993), as well as our clinical observations with regard to treatment responsiveness.

METHOD

Detailed descriptions about the initial randomized, controlled design, participants and the variety of self-report instruments and clinical rating scales that were employed to assess response to treatment are described by Cohen et al. (2004a).

Subjects

Figure 1 shows the total number of children (183) who participated in at least three treatment sessions and completed at least one outcome measure at posttreatment or during the follow-up phase. The numbers of participants who completed 6- and 12-month follow-up evaluations and the numbers of participants who did not complete these evaluations by type of original treatment assignment are also provided. The varying numbers of participants completing each type of outcome measure at each follow-up were attributable to participants who chose to discontinue their study involvement or could not be located

during the follow-up phase. In addition, caregiver data were lost during the follow-up period when children were placed with different caregivers than those who originally completed the pre- and posttreatment outcome measures. The missing data were assumed to have occurred at random. However, as Figure 1 indicates, there were 13 (7%) children who met our predetermined criteria for open treatment because of scores in the severe clinical range with respect to self-reported depression (Children's Depression Inventory [CDI]), parent-reported behavior problems (Child Behavior Checklist [CBCL]), or behaviors considered dangerous to themselves or others. These children received open treatment (i.e., a different type or intensity of treatment from which they had been originally assigned) and thus were considered to be treatment protocol failures. There were four (31%) children and caregivers who had been treated with TF-CBT, and nine (69%) who had been treated with CCT who received open treatment. A binomial test ($p = .53$) indicated that there was no significant difference between the percentages of children who were considered to be treatment failures at posttreatment with respect to the type of treatment to which they had been assigned.

Instruments

The Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version, PTSD section (K-SADS-PL-PTSD; Kaufman et al., 1996) measured PTSD by trained research coordinators. The CDI Kovacs, 1985) measured self-reported depression. The State-Trait Anxiety Inventory for Children (Spielberger, 1973) assessed self-reported symptoms of both state and trait anxiety. The Children's Attributions and Perceptions Scale (CAPS) (Mannarino et al., 1994) determined the children's self-reported levels of stigmatization, interpersonal trust, self-blame for negative events, and perceived credibility. The Shame Questionnaire (Feiring et al., 2002) measured the child's self-reported shame about being sexually abused. The caretakers used the CBCL (Achenbach, 1991) to rate their children with respect to social competence, internalizing, externalizing, and total behavior problems. The Child Sexual Behavior Inventory (Friedrich et al., 1992) gathered the caretaker's perception about whether the child was engaging in inappropriate sexual behavior. The Beck Depression Inventory-II (Beck et al., 1996) measured the caretaker's severity of self-reported depression. The Parent's Emotional Reaction Questionnaire (PERQ) (Mannarino and Cohen, 1996) elicited the caretaker's self-reported levels of emotional distress about his or her child's sexual abuse experience. The Parental Support Questionnaire (PSQ) (Mannarino and Cohen, 1996) measured parental support for the sexually abused child and attributions about responsibility for the abuse. The Parenting Practices Questionnaire (Strayhorn and Weidman, 1988), which was modified for use with CSA children (Stauffer and Deblinger, 1996), asked the caretaker to describe his or her parenting practices with the child.

Treatment Procedures

Detailed descriptions of the types of therapy provided are presented by Cohen et al. (2004a). Briefly, TF-CBT is a structured treatment approach that offers education and coping skills training designed to help children and parents actively process traumatic experiences in the context of individual and conjoint parent–child sessions (Deblinger and Heflin, 1996).
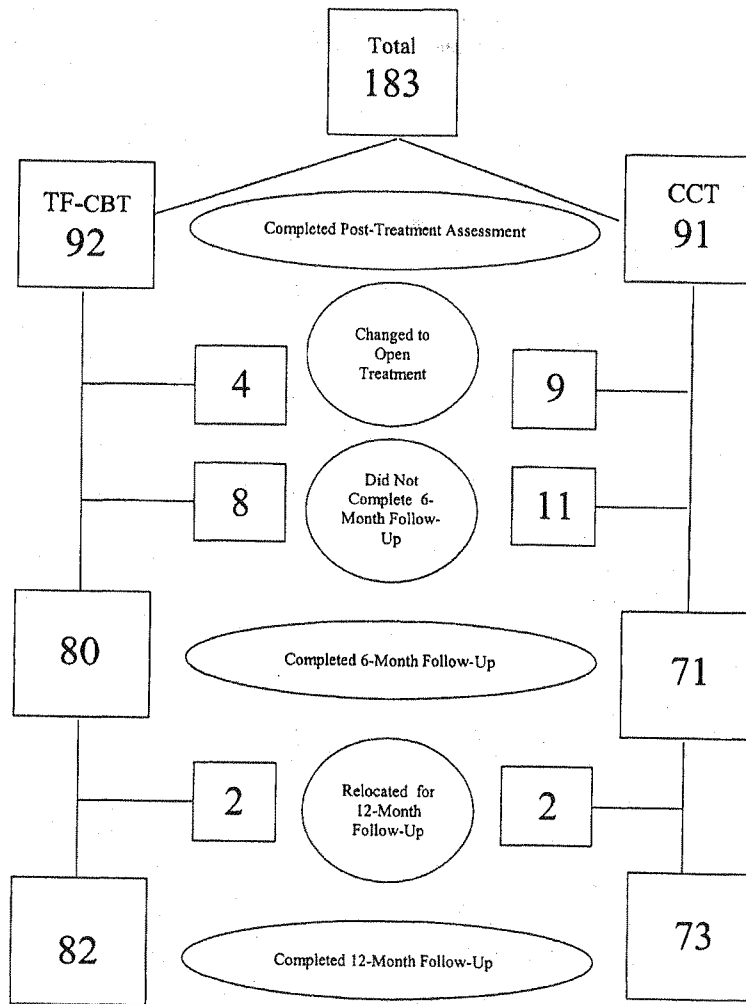
Fig. 1 Number of subjects completing follow-up evaluations by type of treatment.

CCT is a supportive, client-centered approach that focuses on establishing a trusting therapeutic relationship that is self-affirming, empowering, and validating for both the child and caregiver (Cohen and Mannarino, 1996b). During the follow-up phase of this investigation, 20 children and caregivers requested additional therapy, but did not meet the criteria for open treatment; these families received an average of four booster sessions using the same type of therapy that they had been originally randomly assigned to. Of these 20 families, 13 had originally received CCT and 7 had received TF-CBT. Based on a binomial test ($p = .26$), there was no significant difference in the proportion of children who received booster sessions across the treatment conditions.

Data Analysis

The present sample was restricted to the 183 participants who completed at least one of the same pre- and posttreatment outcome measures. Because the numbers of respondents varied between types of treatment across the four evaluations, linear mixed-model, repeated analyses of covariance (ANCOVA) were used to determine whether there were changes in the outcome measures between posttreatment, 6 months, and 12 months. A series of 2 × 3 repeated-measures ANCOVAs were performed with the SAS MIXED procedure in which the main effects were for type of therapy (TF-CBT, CCT) and time (posttreatment, 6 months, 12 months), and the interaction was for type of therapy by time using the pretreatment outcome measure score as the covariate for the posttreatment, 6-month, and 12-month outcome measure scores. A mixed-model analysis is robust to the occurrence of missing information that often occurs during longitudinal research and yields more accurate variance estimates than repeated-measure analyses based on imputing missing data with techniques such as carrying the last value of a outcome measure forward or restricting the analyses to only those subjects who have completed all of the outcome evaluations (Little et al., 1996).

RESULTS

Outcome Measures

Table 1 shows the numbers of participants, means, and SDs for outcome measures at pretreatment, posttreatment, and 6- and 12-month follow-ups by type of treatment. Cohen's (1992) standardized d statistics (effect sizes) are also provided to show the magnitudes of the mean differences between the TF-CBT and the CCT conditions for the outcome measures at the posttreatment and 6- and 12-month evaluations. The majority of the d statistics displayed small effect sizes (<0.20) during the 12-month follow-up period. The data for those measures (i.e., the CAPS Feeling Different subscale, Child Sexual Behavior Inventory, CBCL Social Competence subscale, and Beck Depression Inventory-II) for which there were no significant main or interactive effects during the follow-up phase are not reported in Table 1 or 2.

Table 2 shows the results of the mixed-model repeated ANCOVAs. The analyses revealed a number of significant ($p < .05$) main effects for type of treatment and for time during the follow-up period. The significant main effects for treatment type for the K-SADS Reexperiencing, Avoidance, and Hypervigilance subscales indicated that the adjusted mean numbers of symptoms for these scales were less for the TF-CBT condition during the follow-up phase than for the CCT condition. Furthermore, the significant main effects for time indicated that the adjusted mean numbers of symptoms measured by all three of these PTSD subscales decreased from posttreatment to 6 months for both conditions and then decreased again at 12 months. There was also a significant main effect for type of treatment condition during the follow-up period for children's feelings of shame. Children assigned to the TF-CBT condition exhibited significantly fewer symptoms of shame across the follow-up phase compared with children assigned to CCT. These analyses also demonstrated significant main effects for treatment condition and time for parental reports of abuse specific distress (i.e., PERQ) along with a variety of significant interactions as shown in Table 2. These findings indicated that caregivers assigned to the TF-CBT condition reported significantly less abuse-related emotional distress during the follow-up period as compared with those assigned to CCT. In addition, caregivers in both treatment conditions showed decreased emotional distress over time. There were also significant main effects for time with respect to the CBCL total scores, the CDI, STAI Trait, STAI State, and CAPS Negative Events, Credibility, and Trust subscales, indicating that these symptoms showed improvement over the follow-up period.

Table 2 also indicates that there were a number of significant interactions between type of therapy and time for the CBCL Internalizing and Externalizing scales, the Parenting Practices Questionnaire and the PSQ. One of the most interesting interactions from a clinical perspective was the interaction of condition and time for the PSQ, which demonstrated that parental support concerning the sexual abuse was highest at the posttreatment assessment for participants assigned to TF-CBT compared with parental support reported at any other assessment point for either condition.

Predictors of Treatment Response

A series of partial correlation analyses was next conducted to determine whether selected background characteristics and the pretreatment outcome scores of the children were significantly correlated with the total number of K-SADS PTSD symptoms of the children at posttreatment and the 12-month follow-up in each treatment condition; these partial correlations were only calculated for participants who had complete sets of data for the variables being analyzed. The total numbers of K-SADS PTSD symptoms were calculated by summing the K-SADS Reexperiencing, Avoidance, and Hypervigilance subscale scores. Five background characteristics were first chosen for analysis: the child's sex, white race, age, total number of traumas experienced before treatment, and having a parent as a perpetrator. The only significant partial correlation was for the total number of traumas experienced before treatment with the total number of PTSD symptoms at posttreatment, $r_{partial} = 0.31$, $p < .05$ (Bonferroni adjusted $\alpha/5$), for the children assigned to the CCT condition only. The 17 outcome measures originally used by Cohen et al. (2004a), except the K-SADS Reexperiencing, Avoidance, and Hypervigilance subscales, were next correlated with both the total numbers of PTSD symptoms at posttreatment and at 12 months for each treatment condition after controlling for each condition's total number of PTSD

TABLE 1
Means, SDs, and Effect Sizes for Outcome Measures by Type of Therapy

| | Type of Therapy | | | | | | |
| | TF-CBT | | | CCT | | | |
Scales	No.	Mean	SD	No.	Mean	SD	d
Child							
K-SADS Reexperiencing							
Pretreatment	89	3.98	1.31	91	4.08	1.30	—
Posttreatment	89	1.53	1.39	91	2.32	1.81	−0.49
6-mo follow-up	78	1.19	1.33	69	1.91	1.66	−0.48
12-mo follow-up	80	1.00	1.14	73	1.33	1.41	−0.26
K-SADS Avoidance							
Pretreatment	89	4.13	1.33	91	4.35	1.13	—
Posttreatment	89	1.81	1.36	91	2.89	1.62	−0.70
6-mo follow-up	78	1.69	1.50	69	2.13	1.48	−0.30
12-mo follow-up	80	1.41	1.24	73	1.93	1.51	−0.38
K-SADS Hypervigilance							
Pretreatment	89	3.67	1.21	91	3.68	1.26	—
Posttreatment	89	1.69	1.28	91	2.23	1.59	−0.40
6-mo follow-up	78	1.46	1.32	69	1.75	1.33	−0.22
12-mo follow-up	80	1.11	1.15	73	1.36	1.23	−0.21
CBCL Internalizing							
Pretreatment	88	13.97	9.24	91	17.04	9.88	—
Posttreatment	88	8.02	7.21	91	11.41	8.87	−0.28
6-mo follow-up	75	8.51	8.36	67	9.43	9.07	−0.11
12-mo follow-up	78	7.10	7.32	68	9.54	8.69	−0.31
CBLC Externalizing							
Pretreatment	88	15.59	10.47	91	17.18	9.88	—
Posttreatment	88	11.10	8.52	91	13.82	10.22	−0.26
6-mo follow-up	75	11.67	10.40	67	12.67	10.74	−0.09
12-mo follow-up	78	11.51	10.68	68	10.34	9.22	0.11
CBCL total							
Pretreatment	88	48.48	27.90	91	54.29	28.03	—
Posttreatment	88	31.45	21.75	91	40.79	27.09	−0.33
6-mo follow-up	75	32.44	27.05	67	34.58	30.00	−0.08
12-mo follow-up	78	29.17	24.70	68	31.13	24.88	−0.08
CDI							
Pretreatment	92	9.92	7.50	91	12.11	8.59	—
Posttreatment	92	5.70	5.47	91	8.79	9.37	−0.30
6-mo follow-up	80	4.08	4.36	71	5.77	7.11	−0.29
12-mo follow-up	82	4.15	5.28	73	5.25	7.29	−0.17
STAIC Trait							
Pretreatment	92	37.27	6.83	91	39.10	7.96	—
Posttreatment	92	30.78	7.20	91	33.69	8.57	−0.28
6-mo follow-up	79	29.70	7.20	71	31.42	8.76	−0.22
12-mo follow-up	82	28.61	7.29	73	30.74	8.02	−0.28
STAIC State							
Pretreatment	92	30.51	6.84	91	31.48	8.32	—
Posttreatment	92	26.22	5.10	91	27.76	6.96	−0.22
6-mo follow-up	80	24.89	4.62	71	26.14	5.80	−0.24
12-mo follow-up	82	25.44	4.81	73	26.55	6.65	−0.19
CAPS Negative Events							
Pretreatment	92	7.82	3.05	91	8.58	2.91	—

(Continued)

TABLE 1
(continued)

| | Type of Therapy | | | | | | |
| | TF-CBT | | | CCT | | | |
Scales	No.	Mean	SD	No.	Mean	SD	*d*
Posttreatment	92	6.46	2.46	91	7.24	2.89	−0.19
6-mo follow-up	79	6.44	2.49	71	6.51	2.58	−0.03
12-mo follow-up	82	6.00	1.94	73	6.40	2.55	−0.18
CAPS Credibility							
Pretreatment	92	12.46	3.14	91	13.82	3.98	——
Posttreatment	92	10.37	3.38	91	12.15	4.26	−0.34
6-mo follow-up	79	10.86	4.01	71	11.08	4.44	−0.05
12-mo follow-up	82	9.73	3.67	73	10.22	3.54	−0.14
CAPS Trust							
Pretreatment	92	12.45	3.97	91	13.13	3.97	——
Posttreatment	92	9.86	3.81	91	11.38	4.11	−0.34
6-mo follow-up	79	9.32	3.44	71	9.90	3.41	−0.17
12-mo follow-up	82	9.06	3.62	73	9.73	4.30	−0.17
Shame							
Pretreatment	91	2.84	2.28	90	3.03	2.18	——
Posttreatment	91	0.87	1.35	90	1.60	1.87	−0.46
6-mo follow-up	79	0.76	1.16	70	1.29	1.63	−0.38
12-mo follow-up	82	0.74	1.35	71	1.07	1.78	−0.21
Parent							
PERQ							
Pretreatment	88	51.36	12.50	91	49.49	11.44	——
Posttreatment	88	30.76	11.29	91	37.98	12.84	−0.81
6-mo follow-up	76	29.82	13.03	67	33.75	11.04	−0.32
12-mo follow-up	79	28.44	11.60	69	33.00	11.94	−0.33
PPQ							
Pretreatment	82	135.60	15.20	86	136.44	15.80	——
Posttreatment	82	144.38	15.55	86	139.19	13.61	0.57
6-mo follow-up	71	140.96	16.81	61	139.82	15.46	0.07
12-mo follow-up	73	142.59	15.99	65	143.08	13.86	−0.03
PSQ							
Pretreatment	88	88.38	6.52	91	89.12	6.56	——
Posttreatment	88	90.28	6.50	91	87.95	8.09	0.46
6-mo follow-up	76	87.16	12.22	67	86.25	11.58	0.08
12-mo follow-up	79	85.70	14.13	69	87.01	11.53	−0.10

Note: TF-CBT = trauma-focused, cognitive-behavioral therapy; CCT = child-entered therapy; K-SADS = Schedule for Affective Disorders and Schizophrenia for School Age Children; CBCL = Child Behavior Checklist; CDI = Children's Depression Inventory; STAIC = Spielberger Trait-State Anxiety Inventory for Children; CAPS = Children's Attributions and Perceptions Scale; PERQ = Parent Emotional Reaction Questionnaire; PPQ = Parent Practices Questionnaire; and PSQ = Parent Support Questionnaire.

symptoms at pretreatment. After applying a Bonferroni adjustment to control for the familywise error rate by dividing α (.05) by the total number of 17 correlation analyses that were performed for each condition at posttreatment and 12 months, there were only two significant partial correlations. These significant partial correlations only occurred in the CCT condition: self-reported depression in children as measured by the CDI was positively correlated with both the total number of PTSD symptoms at posttreatment ($r_{partial}$ = 0.39, $p < .01$) and 12 months ($r_{partial}$ = 0.33, $p < .05$), after controlling for the total number of PTSD symptoms at pretreatment. According to Cohen's (1992) effect size guidelines, the above significant partial correlations represented medium effect sizes.

TABLE 2
Mixed Model Repeated Analyses of Covariance for Outcome Measures

Scale	$df1$	$df2$	F	Contrasts
Child				
K-SADS Scales				
Reexperiencing				
Pretreatment	1	177	29.41***	
Type	1	177	16.11***	CCT > CBT
Time	2	177	13.61***	Post > Fol6 > Fol12
Type × time	2	177	1.91	
Avoidance				
Pretreatment	1	177	7.76**	
Type	1	177	15.56***	CCT > CBT
Time	2	177	10.91***	Post > Fol6 > Fol12
Type × time	2	177	2.78	
Hypervigilance				
Pretreatment	1	177	37.51***	
Type	1	177	8.82**	CCT > CBT
Time	2	177	16.98***	Post > Fol6 > Fol12
Type × time	2	177	0.55	
CBCL Scales				
Internalizing				
Pretreatment	1	176	111.17***	
Type	1	176	0.55	
Time	2	176	1.85	
Type × time	2	176	3.40*	CCT Post > CBT Post CBT Fol6 > CBT Fol12
Externalizing				
Pretreatment	1	176	256.63***	
Type	1	176	0.01	
Time	2	176	2.91	
Type × time	2	176	3.67*	CCT Post & CCT Fol6 > CCT Fol12
Total				
Pretreatment	1	176	198.32***	
Type	1	176	0.29	
Time	2	176	5.48**	Post & Fol6 > Fol12
Type × time	2	176	2.44	
CDI				
Pretreatment	1	180	96.81***	
Type	1	180	3.57	
Time	2	180	10.52***	Post > Fol6 & Fol12
Type × time	2	180	1.22	
STAIC Trait				
Pretreatment	1	180	75.16***	
Type	1	180	2.70	
Time	2	180	7.26***	Post > Fol6 & Fol12
Type × time	2	180	0.31	
STAIC State				
Pretreatment	1	180	78.80***	
Type	1	180	1.97	
Time	2	180	3.71*	Post > Fol6
Type × time	2	180	0.40	

(Continued)

TABLE 2
(continued)

Scale	df1	df2	F	Contrasts
CAPS scales				
Negative Events				
Pretreatment	1	180	72.16***	
Type	1	180	0.30	
Time	2	180	4.54*	Post > Fol6
Type × time	2	180	1.07	
Credibility				
Pretreatment	1	180	44.05***	
Type	1	180	0.83	
Time	2	180	7.65***	Post & Fol6 > Fol12
Type × time	2	180	2.81	
Trust				
Pretreatment	1	180	45.95***	
Type	1	180	2.54	
Time	2	180	7.02**	Post & Fol6 > Fol12
Type × time	2	180	1.42	
Shame				
Pretreatment	1	178	72.90***	
Type	1	178	7.86**	CCT > CBT
Time	2	178	1.83	
Type × time	2	178	1.60	
Parent				
PERQ				
Pretreatment	1	176	83.46***	
Type	1	176	18.86***	CCT > CBT
Time	2	176	10.64***	Post > Fol6 & Fol12
Type × time	2	176	4.56*	CCT Post, CCT Fol6, & CCT Fol12 > CBT Fol6 & CBT Fol12CBT Post > CCT Fol6 & CCT Fol12
PPQ				
Pretreatment	1	165	223.56***	
Type	1	165	1.57	
Time	2	165	3.18*	Fol6 > Fol12
Type × time	2	165	8.47***	CBT Post > CCT Post CBT Fol12 > CCT Post & CCT Fol6
PSQ				
Pretreatment	1	176	82.33***	
Type	1	176	0.44	
Time	2	176	6.12**	Post > Fol6 & Fol12
Type × time	2	176	3.33*	CBT Post > CCT Post, CCT Fol6, & CCT Fol12

Note: CCT = child-centered therapy; CBT = trauma-focused cognitive-behavioral therapy; Fol = follow-up assessment; Fol6 = follow-up assessment 6 months posttreatment; Fol12 = follow-up assessment 12 months posttreatment; K-SADS = Schedule for Affective Disorders and Schizophrenia for School-Age Children; CBCL = Child Behavior Checklist; CDI = Children's Depression Inventory; STAIC = Spielberger Trait-State Anxiety Inventory for Children; CAPS = Children's Attributions and Perceptions Scale; PERQ = Parent Emotional Reaction Questionnaire; PPQ = Parent Practices Questionnaire; and PSQ = Parent Support Questionnaire. *$p < .05$; **$p < .01$; ***$p < .001$.

DISCUSSION

The overall pattern of results indicated that children who were treated with TF-CBT maintained the gains that had been found at posttreatment and continued to have fewer PTSD symptoms and abuse-related feelings of shame at 6- and 12-month follow-up assessments

compared with children who were treated with CCT. Similarly, parents assigned to TF-CBT reported significantly less abuse-specific emotional distress on the PERQ at the 6- and 12-month assessments compared with parents assigned to CCT. The follow-up findings with respect to the PSQ indicated that parental support for the child seemed to decrease over time across both conditions. Although initially surprising, this finding makes sense insofar as many of the parental support behaviors would not be expected to occur frequently during the follow-up period. These supportive behaviors would be more appropriate in the immediate aftermath of the child's disclosure and during the course of treatment (e.g., told my child that it was not his or her fault). It should be noted that at posttreatment, the parents assigned to TF-CBT reported providing a significantly higher level of this type of parental support than that provided by parents assigned to the CCT condition at any evaluation point.

Clinical Implications

Given the suffering associated with PTSD, it is critical to emphasize the importance of identifying interventions, such as TF-CBT, that are both efficacious and efficient in minimizing PTSD as quickly as possible. Although the improvements found across both conditions may reflect the impact of an empathic therapeutic relationship on overall adjustment, it may be that the structure and specific components of TF-CBT led to greater and faster improvements in abuse-specific distress for both the children and caregivers assigned to that condition. This is important because chronic symptoms of PTSD may not only be highly disruptive in terms of children's social and emotional development but may also lead to detrimental effects on neurobiological functioning and development (DeBellis et al., 2001). The finding that children who had received TF-CBT were significantly less likely to be experiencing feelings of shame during the follow-up period is also significant given the recent research indicating that shame may mediate the impact of child sexual abuse potentially influencing long-term recovery (Andrews et al., 2000; Deblinger and Runyon, 2005; Feiring et al., 1998, 2002).

Specific TF-CBT components such as gradual exposure to and processing of explicit traumatic memories using expressive vehicles (i.e., drawing and/or writing a narrative) may be central to alleviating PTSD and shame in the children. This hypothesis is in

fact being examined in a study that is under way by the current investigators. Interestingly, a significant proportion of children assigned to TF-CBT in this investigation indicated that talking about the sexual abuse was the most helpful aspect of treatment. Moreover, it should be noted that the emphasis of the TF-CBT on the direct discussion and working through of traumatic memories is compatible with and may be used in the context of other forms of psychotherapy. The present findings suggest that TF-CBT not only helps children who have experienced sexual abuse, as well as other traumas, experience significant improvements relatively quickly but also those improvements appear to maintain and/or grow over time. Thus, TF-CBT may potentially reduce the likelihood that these children will develop the long-term psychiatric and social difficulties for which they are at risk (Felitti et al., 1998).

The results of analyses examining potential predictors of treatment outcome yielded relatively little in terms of variables associated with treatment response in either condition. Although assessment studies and a few treatment outcome studies have examined age, sex, race and/or relationship to the perpetrator as potential predictors of postabuse adjustment (Kendall-Tackett et al., 1993), the findings have been inconsistent. Thus, it may not be surprising that these factors did not show significant associations with treatment outcome in the current investigation. The analyses examining potential predictors of treatment response did reveal two variables that were associated with the children's responsiveness to the CCT condition only. The results demonstrated a positive association between the number of traumatic events reported before treatment (e.g., physical abuse, exposure to domestic violence, death of a loved one) and PTSD symptom levels at posttreatment for those children assigned to CCT. Similarly, the severity of the children's self-reported depression at pretreatment was positively related to the total number of PTSD symptoms at posttreatment and at the 12-month follow-up only for the children assigned to CCT. These findings suggest that children who present more depression and/or report more traumatic experiences are less likely to be helped by CCT than those with less depression and less trauma. These significant associations were not found for children assigned to TF-CBT. Cognitive therapy, in fact, was originally developed for the treatment of

depressed patients (Beck and Van der Kolk, 1987), and many of the techniques incorporated into TF-CBT, especially those helping a client recognize the relationships among thoughts, feelings, and behavior, would simultaneously address not only symptoms associated with PTSD but also those related to depression. Still, the use of TF-CBT with depressed and/or multiply-traumatized children may run counter to clinical tendencies to take a more nondirective approach with children who are perceived to be more vulnerable. However, based on these findings, one may speculate that children suffering depression and/or a history of multiple traumas may benefit from the structure and skill building aspects of the TF-CBT approach despite their seeming fragility. This is particularly important given that PTSD is often comorbid with depression and recent findings suggest that the co-occurrence of these disorders in adults appears to increase the risk of suicidal behavior (Oquendo et al., 2005).

Limitations

With respect to this study's limitations, the sample is not representative of all children who have experienced sexual abuse. The sample does not include, for example, children who were asymptomatic or only mildly distressed at the time of referral. Rather, the participants in this study represent those children who, in the aftermath of child sexual abuse, were experiencing significant PTSD symptomatology. Therefore, it was not surprising that a substantial proportion of the children in this study had not only suffered sexual abuse but also reported a history of other traumas as well. This is important because children who have less complex trauma histories and less severe reactions to child sexual abuse may do well in response to nondirective supportive treatment approaches. In addition, this study excluded children who were dangerous to themselves or others. Thus, one cannot assume that TF-CBT alone would be sufficient to help children who are actively suicidal or engaging in other dangerous behaviors. Children experiencing such difficulties may require a stabilization period in which skills designed to encourage emotional and behavioral regulation are taught before engaging in trauma-focused interventions.

The relatively brief follow-up period is another significant limitation of this investigation. The findings of numerous investigations seem to suggest that the detrimental effects of child sexual abuse can reach far beyond childhood, affecting adolescent and adult emotional, social, and behavioral functioning. Longer follow-up investigations are required to assess the potential long-term benefits of early interventions.

The present study suggests several important directions for future research. Given the accumulating evidence documenting the value of TF-CBT in helping children who have suffered sexual abuse overcome PTSD and related difficulties (e.g., Cohen and Mannarino, 1996a, 1998; Deblinger et al., 1996, 2001), examining the efficacy of TF-CBT in helping children overcome the impact of other types of trauma seems highly worthwhile. A recent investigation has demonstrated the benefits of TF-CBT for children experiencing traumatic grief (Cohen et al., 2004b, 2006). Finally, it is also critical to begin to conduct effectiveness studies to examine the transportability of this treatment model to a variety of community settings. Dissemination research may also help to identify and establish effective and efficient means of training therapists in the implementation of the TF-CBT treatment model for children and parents. This is an essential next step in ensuring that children across the nation who have been brave enough to disclose their abuse receive therapy services that will enhance their potential for healthy and productive lives.

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Findings in Older Children With Abusive Head Injury: Does Shaken-Child Syndrome Exist? Hani Salehi-Had, BA, James D. Brandt, MD, Angela J. Rosas, MD, Kristen K. Rogers, PhD

Shaken-baby syndrome (SBS) has been hypothesized to occur after shaking by an adult during the first 2 years of life. We wondered whether it is possible to achieve rotational forces sufficient to cause SBS-like injuries in children >2 years of age. The present study describes cases of child abuse in older children who presented with the classic ophthalmologic and intracranial findings of SBS. In this case series, 4 cases of older children (2.5–7 years old; 11.8–22 kg) who died from abusive head injuries and who had diffuse retinal hemorrhages identified antemortem were selected for review. The cases were abstracted from hospital charts, records from autopsies, coroners' and district attorneys' offices, and court transcripts. In all 4 cases the history provided by the primary caregiver did not match the severity of the injuries. Three case subjects presented with patterned bruises. Multilayered retinal hemorrhages and acute subdural hematoma were observed in all 4 cases. At autopsy, diffuse axonal injury was evident in 3 of the 4 cases; all 4 cases had optic nerve sheath hemorrhages. None of the victims had skeletal fractures on radiologic examination or at autopsy. This case series demonstrates that it is possible to observe SBS-like retinal and central nervous system findings in the older and heavier child. Our findings underscore the need for providers to consider intentional shaking as a mechanism of injury in the evaluation of abusive head injury in older children. **Pediatrics** 2006;117:e1039–e1044.