Curr Psychiatry Rep (2013) 15:332
DOI 10.1007/s11920-012-0332-5

CHILD AND ADOLESCENT DISORDERS (TD BENTON, SECTION EDITOR)

Evidence-Based Treatments for Traumatized Children and Adolescents

Stephanie J. Schneider · Steven F. Grilli · Jennifer R. Schneider

Published online: 15 December 2012

Abstract This article reviews recent advances in empirically supported psychotherapeutic treatments for children and adolescents experiencing trauma and provides a brief summary of available interventions, as well as a context for their use. We highlight the American Academy of Child and Adolescent Psychiatry's recent practice guidelines for trauma treatment and discuss their implications for clinicians, including the benefits of involving caregivers in treatment and the rationale for using practices that are specifically trauma-focused as first-line intervention. Finally, we discuss the status of research on the real-world implementation of these therapies and the need for further research, particularly regarding clinician knowledge and use of empirically supported practices, potential stepped-care approaches to trauma treatment, and the need to reduce attrition in child trauma research and practice.

Keywords Posttraumatic stress disorder · PTSD · Child (children) · Adolescent · Trauma · Evidence-based · Empirically supported · Treatment · Therapy · Intervention · Outcome · Trauma-focused cognitive behavioral therapy · TF-CBT · Child-parent psychotherapy · CPP · Combined parent-child cognitive behavioral therapy · CPC-CBT · Preschool PTSD treatment · Eye movement desensitization and reprocessing · EMDR · Review · Child and adolescent disorders · Psychiatry

This article is part of the Topical Collection on *Child and Adolescent Disorders*

S. J. Schneider (✉)
Center for Pediatric Traumatic Stress, The Children's Hospital of Philadelphia, 34th & Civic Center Blvd., Room 1487 CHOP North, Philadelphia, PA 19104, USA
e-mail: schneiders1@email.chop.edu

S. F. Grilli
Center for Pediatric Traumatic Stress, The Children's Hospital of Philadelphia, 34th & Civic Center Blvd., Room 1483 CHOP North, Philadelphia, PA 19104, USA
e-mail: grillis@email.chop.edu

J. R. Schneider
Center for Pediatric Traumatic Stress, The Children's Hospital of Philadelphia, 34th & Civic Center Blvd., Room 1488 CHOP North, Philadelphia, PA 19104, USA
e-mail: schneiderjr@email.chop.edu

Introduction

Between 60 % and 90 % of children and adolescents presenting for outpatient mental health treatment have been exposed to trauma [1•]. In pediatric clinical samples, high levels of traumatic stress have been found in approximately 90 % of children who are sexually abused, 75 % of those exposed to school violence, 50 % of those physically abused, and 35 % of children exposed to community violence [2]. Although child trauma is a significant and pervasive mental health condition, it is potentially one of the most treatable—a remarkable development, considering that no empirically supported treatments for child trauma existed before the late 1990s. The National Child Traumatic Stress Network (NCTSN) suggests that trauma treatment may also build resilience, indicating that "children who receive timely and appropriate treatment may not only recover, but gain the tools and capacity to cope more successfully with future stress" [3].

Recent developments in child trauma treatment support this perspective and reflect a growing understanding of the psychotherapeutic mechanisms that are effective in trauma therapy. Over the past decade, the scientific focus of treatment studies has evolved from "does it work?" to "how it works, with whom, and why." Achieving a greater understanding of how treatments are translated into clinical practice will mark another milestone in the field's ongoing development.

The NCTSN has contributed to this development by dramatically raising public awareness and elevating the standard of care for children experiencing trauma throughout the past decade. By bringing together treatment experts, front-line clinicians, and affected families, the NCTSN has

advanced the development of evidence-based treatments and their dissemination, while facilitating the integration of trauma assessment and intervention across multiple child-serving systems [3].

Proposed changes to the DSM-V [4] overlap with the achievements of the NCTSN and underscore increased recognition of trauma's impact on mental health. Recommendations include relocating trauma-related disorders from Anxiety Disorders into a new primary category, encompassing Acute Stress Disorder, Post-Traumatic Stress Disorder (PTSD), and Trauma- or Stressor-Related Disorder Not Elsewhere Classified and expanding the symptom clusters in the PTSD diagnostic category from three (re-experiencing; avoidance / numbing; and increased arousal) to four (intrusion; avoidance; alterations in cognitions and mood; alterations in arousal and reactivity). Many of the symptoms within these clusters have been more pragmatically redefined in behavioral and culturally relevant terms. Of particular interest is the inclusion of the pre-school subtype for PTSD, which describes associated symptoms in developmentally appropriate terms and signifies the growing recognition of the impact of trauma on pre-school children, as well as the need for accurate diagnosis [4].

Treatment Considerations

In its recent practice guideline regarding the assessment and treatment of children and adolescents with PTSD [5••], The American Academy of Child and Adolescent Psychiatry (AACAP) outlined three key recommendations for psychotherapeutic treatment, which underscore the need to: (1) consider the severity and degree of child impairment due to PTSD symptoms; (2) integrate interventions for co-morbid conditions into trauma treatment where feasible, and (3) adopt trauma-focused psychotherapies as first-line treatment. These parameters also emphasize the inclusion of parents or caregivers in treatment and highlight several important issues that should be taken into account when treating children and adolescents experiencing trauma. Because many clinicians encounter children with posttraumatic stress who also have significant functional impairment, the guidelines recommend that impairment be considered an important marker for treatment outcome, along with symptom improvement. This also suggests that clinicians should use standardized assessments for symptom severity and impairment throughout treatment. Since posttraumatic stress in children is often co-morbid with other conditions, such as depression, anxiety, oppositional defiant disorder, and conduct disorder [2], clinicians should consider integrating trauma interventions with treatment for co-morbid psychiatric diagnoses, where indicated [5••]. In these cases, clinicians may opt to use a trauma-focused psychotherapy, such as Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), which not only decreases symptoms of posttraumatic stress, but also addresses other co-occurring problems.

Finally, AACAP practice guidelines recommend that clinicians use trauma-focused psychotherapies as first-line treatment [5••]. In contrast to supportive, non-directive, or other specialized therapies, trauma-focused treatments explicitly address children's traumatic experiences and help them overcome avoidance of trauma-related memories, beliefs, and feelings through the use of gradual exposure and cognitive or emotional processing techniques. Regardless of theoretical orientation, trauma-focused therapies also help children regain a sense of control over the trauma (e.g., the ability to think or talk about the trauma without feeling overwhelmed), destigmatize the potential shame the trauma has engendered, and normalize symptoms as common and understandable responses to the traumatic event [6]. This is often accomplished using an exposure-based technique known as the trauma narrative, which involves gradually retelling and reprocessing the details of the event. Repeated exposure to the traumatic details has been shown to extinguish the negative emotional and behavioral responses associated with the traumatic memory and to enhance cognitive processing by creating a coherent, contained narrative that situates the event and its reminders into a more adaptive context. Although other cognitive-behavioral techniques, such as anxiety management, affect regulation, and cognitive restructuring, can alleviate trauma-related anxiety and depression, trauma-focused techniques—like the trauma narrative—that facilitate exposure to and processing of the traumatic memory have been shown to be essential in resolving PTSD symptoms [7].

As the AACAP guidelines suggest, parent participation is crucial to achieving treatment outcomes. Parent engagement in trauma treatment has also been shown to have a significant impact on rates of dropout [6]; parents with positive perceptions of treatment can become important partners in reinforcing therapeutic benefits between sessions, maintaining clinical gains, and helping children move forward with normal activities after treatment ends [8]. While joint caregiver participation is standard for many trauma therapies, parent and family engagement in treatment can be especially problematic with PTSD, as the child's traumatic event often directly involves or vicariously impacts other family members. Intergenerational transmission of trauma, seen in refugee families or in families with multiple, ongoing, or chronic trauma (e.g. ,violence and abuse), can also impede effective treatment. A child's PTSD can be exacerbated by caregivers and family members who are suffering their own traumatic stress and are too preoccupied or overwhelmed to attend to the child's needs [9•]. Caregiver involvement is critical in treating trauma in younger children because of the potential attachment rupture experienced by the child as a result of the trauma (e.g., abuse, maltreatment) and the need to reestablish the parental role as the child's protective, secure base. Lieberman et al. [10•] suggest that recovery

from trauma for younger children is firmly rooted in the quality of their attachment to caregivers and should be addressed in a relational context. Similarly, Bernardan & Pernice-Duca [9•] advocate for a family systems perspective in trauma assessment and treatment and for involving caregivers and other family members in co-constructing the trauma narrative to enhance communication and understanding of the impact and role of the trauma within the family.

Status of Empirically Supported Treatment for Child Trauma

Among trauma-focused psychotherapies, Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) [11] and Child Parent Psychotherapy (CPP) [12] have the strongest empirical support. Combined Parent-Child Cognitive-Behavioral Therapy (CPC-CBT) [13] and Pre-School PTSD Treatment (PPT) [14•], both adapted from TF-CBT, are important new therapies that show empirical promise. Other trauma-focused psychotherapies are available for different patient groups and vary in empirical support (see Table 1):

- *Individual or dyadic therapies:* Prolonged Exposure Therapy for Adolescents [15]; Eye Movement Desensitization and Reprocessing [16]; "A Home Within" Relationship-Based Play Therapy Model [17]; and Trauma Adaptive Recovery Group Education and Therapy for Adolescents [18]
- *Family and other systemic therapies:* Risk Reduction through Family Therapy [19]; Strengthening Family Coping Resources [20]; Trauma Systems Therapy [21]; and Surviving Cancer Competently Intervention Program For Adolescent Survivors of Childhood Cancer and their Families [22]
- *School-based or group therapies:* Grief and Trauma Intervention for Children [23]; Cognitive-Behavioral Intervention for Trauma in Schools [24]; and Trauma and Grief Component Therapy for Adolescents [25]

For comprehensive critiques of evidence-based treatment options for child PTSD, see reviews by Dorsey et al. [26] and Cohen & Mannarino [27].

Trauma-Focused CBT

Recent metanalyses by Cary and McMillan [28] and Kowalik et al. [29] continue to demonstrate the effectiveness of Cognitive Behavioral Therapy (CBT) in general, and TF-CBT specifically, as front-line treatment for child trauma. These data show significant differences between TF-CBT or highly similar CBT treatments, compared with non-CBT therapies or treatment as usual, in reducing symptoms of PTSD, depression, and internalizing behaviors across 18 studies (n=24–229) [28, 29]; however, only the PTSD findings were maintained at 12-month follow-up [28]. In comparison, Mannarino and others [30, 31] have demonstrated treatment gains with TF-CBT for child and parent PTSD, depression, anxiety, and child behavior problems at 1- and 2-year follow-up. These inconsistent findings might be explained by variations in post-treatment outcome methods and measures combined with high post-treatment attrition. Pending conclusive longer-term data, clinicians should conceptualize trauma treatment along a continuum that seeks to initially decrease symptoms of PTSD and functional impairment, while remaining vigilant in the months following treatment for co-occurring conditions that may persist.

More than a half-dozen larger scale (n=35–229) randomized clinical trials for TF-CBT have unequivocally shown positive therapeutic outcomes for children aged 3-17 experiencing trauma due to sexual abuse [32]. More recently, TF-CBT has demonstrated efficacy for children experiencing other traumas, including community violence/terrorism [33], interpersonal violence [34, 35], and multiple traumas resulting in foster care placement [36]. TF-CBT has been adapted for use with child traumatic grief [37], trauma and grief in military children [38], and children experiencing refugee trauma [39]. Since TF-CBT is not indicated for all children with trauma—especially those with untreated substance abuse, psychosis, bipolar disorder, or those with high risk or safety concerns—Lang et al. [1•] provide clinicians with a useful algorithm for determining which children are appropriate for TF-CBT and which may require crisis intervention or other treatment in advance of TF-CBT.

Child-Parent Psychotherapy

Child-Parent Psychotherapy combines elements of cognitive-behavioral, attachment-based, and psychodynamic therapies to treat young children (infant to 7 years) who have witnessed or experienced family violence or trauma. CPP focuses on co-creating a trauma narrative and co-processing the trauma experience in a relational context using play and empathic parent-child communication and is designed to help parents more accurately and positively respond to their child's emotions and behaviors. Outcome data from three randomized controlled trials (n=75–122) of CPP have demonstrated significant decreases in child PTSD symptoms and problem behaviors and increases in child attachment security. Mothers participating in CPP showed significant decreases in depression and avoidant PTSD symptoms [10•]. A recent secondary analysis of data from a previous CPP trial (n=75) suggests that mental health treatment gains from CPP may be greater in families with ongoing or chronic trauma (those whose children have experienced four or more traumatic or stressful life events), particularly for maternal PTSD and depression [40].

Table 1 Selected evidence-supported trauma-focused treatments for children and adolescents

Treatment	Population	Trauma types	Description	Length/format
Trauma-focused cognitive behavioral therapy [11]	Ages 3-18 and their caregivers	• Abuse; Traumatic grief; General trauma	• Multi-component treatment facilitating cognitive/ emotional processing using gradual exposure and a trauma narrative, as well as anxiety management, affect regulation, and cognitive restructuring	• 12-16 sessions; includes conjoint sessions
Child-parent psychotherapy [12]	Ages birth-5 and their caregivers	• Domestic/ other violence; Maltreatment	• Conjoint child-parent therapy utilizing play and in-session communication to improve parent responsiveness and to strengthen the parent-child attachment	• 52 (avg.) conjoint sessions
Combined parent-child cognitive behavioral therapy [13]	Ages 3-17 and their caregivers	• Physical abuse or families with high risk of physical abuse	• Uses trauma narrative and processing to help children and families cope with prior abusive experiences. Teaches parents non-coercive care giving and communication skills to strengthen family relationships and enhance family safety	• 16-20 sessions; includes offending caregiver and multi-family groups
Preschool PTSD treatment [14•]	Ages 3-6 and their caregivers	• General trauma	• Adapted from TF-CBT, utilizes developmentally appropriate drawing exercises to help traumatized pre-school children identify thoughts and feelings and to process the trauma narrative	• 12 conjoint sessions
Prolonged exposure therapy for adolescents [15]	Ages 12-18 and their caregivers	• General trauma	• Uses in vivo and imaginal exposure to help teens revisit the trauma memory, tolerate distress and resume previous activities	• 8-15 sessions; may include family support sessions
Trauma adaptive recovery group education & treatment [18]	Ages 10-18	• Abuse; Maltreatment; Violence; Chronic trauma; Sexual assault	• Components-based treatment using cognitive behavioral, relational, and narrative techniques to help adolescents regulate extreme emotional states, process trauma memories, make thoughtful behavioral choices, and improve interpersonal problem solving	• 4-12 sessions; offered individually, in groups or in family-based formats
Risk reduction through family therapy [19]	Ages 12-17 and their families	•	• Uses family communication, interpersonal problem-solving, healthy decision-making, and trauma narrative processing to decrease adolescents' risk for drug use, PTSD, and risky sexual behaviors	• 15-25 sessions; includes individual and family sessions
Strengthening family coping resources [20]	All age family members	• Complex family trauma	• Uses a multi-family group framework to help families to establish rituals and routines, teach positive coping skills, and co-construct and process a family trauma narrative	• 15 sessions; delivered in multi-family groups
Trauma systems therapy [21]	Ages 6-18 and their caregivers	• General trauma	• Coordinates interventions across systems to facilitate child/family engagement, contain the traumatized child's emotional and behavioral dysregulation, and address stressors in the child's social environment	• Varies; delivered in individual, family, or group settings
Grief and trauma intervention for children [23]	Ages 7-12	• Violence; Disaster; Traumatic loss	• Based on CBT and narrative therapy techniques, uses art, drama, play, and rituals to help children talk about their trauma memories, make meaning of their losses, and develop positive coping strategies	• 10 sessions; offered in individual, group, or school formats
Cognitive-behavioral intervention for trauma in schools [24]	School-based, grades 3-8	• General trauma	• Incorporates CBT techniques such as relaxation, guided imagery, social problem-solving, exposure to trauma reminders, construction and processing of trauma narrative to reduce PTSD, depression, and behavioral problems while enhancing coping skills and peer support	• 13 sessions (avg.); offered individually and in peer sessions
Trauma and grief component therapy for adolescents [25]	School-based, ages 12-20	• Community violence; Traumatic loss	• Components-based CBT treatment that teaches emotional regulation, discusses trauma experiences and reactions; addresses maladaptive beliefs relating to trauma and loss to improve adaptive coping	• 10-24 sessions; offered individually or in groups

Combined Parent-Child Cognitive Behavioral Therapy

Unlike TF-CBT and CPP, which include the non-offending caregiver, Combined Parent-Child Cognitive-Behavioral Therapy is a promising trauma treatment for parents who engage in or are at risk of physical abuse and their traumatized children. Similar to TF-CBT, CPC-CBT uses gradual exposure, the trauma narrative, and cognitive processing to address symptoms of PTSD in children. Parent components include motivational interviewing, anger control, and examination of parent-child interactions [13]. Two studies [13], [41•] to date (n =12,

44) have demonstrated pre- and post-treatment improvements in child PTSD and positive parenting skills and reductions in child behavior problems and parental use of physical punishment.

Pre-School PTSD Treatment

Preschool PTSD Treatment adapts many of the TF-CBT components for use with younger children, ages 3 through 6. Like TF-CBT, PPT uses gradual exposure and drawing exercises to aid the child's processing of painful trauma memories and incorporates parenting skills, psychoeducation, relaxation, feelings identification, trauma narrative, and relapse prevention. Unlike TF-CBT, the parent fully participates throughout each PPT session. A recent randomized controlled trial (n=62) showed significant improvements in young participants' PTSD symptoms as compared to controls. Although the effect size was large for PTSD, it is tempered somewhat by the study's high attrition rate. Perhaps more important is the finding that the participating pre-school children could complete the in-session treatment components at least 80 % of the time, suggesting that this adaptation is not only potentially effective, but also developmentally appropriate [14•].

Eye Movement Desensitization and Reprocessing

Based on adaptive information processing theory, Eye Movement Desensitization and Reprocessing (EMDR) uses dual-stimulation exercises that simultaneously attend to both cognitive and physical stimuli to reprocess distressing trauma memories more adaptively and decrease sensitivity to trauma triggers. Although EMDR has demonstrated efficacy in alleviating PTSD in adults, the evidence is less strong when modified for children, as recent studies have been handicapped by small sample sizes and methodological variability. Fields & Cottrell [16] systematically reviewed six studies using EMDR with children (3 randomized, 1 controlled lag, 1 uncontrolled, and 1 case report) finding that, although EMDR demonstrated some efficacy in reducing PTSD symptoms, it was not superior to CBT. From these studies, EMDR was more effective at reducing symptoms of re-experiencing and less successful with hyperarousal and avoidance. The review also suggests that, for single-incident trauma, treatment gains with EMDR may occur more rapidly than with CBT. A recent controlled study of a four-session EMDR protocol with 27 children involved in motor vehicle accidents showed a 75 % reduction in PTSD symptoms in the EMDR group compared with no symptom reduction in the wait list controls [42].

Early, Preventive Treatments

An emerging area of clinical focus is therapy protocols that address or prevent early traumatic stress symptoms. Of these, the Child and Family Traumatic Stress Intervention (CFTSI) [43•] shows the most empirical promise. Delivered soon after a potentially traumatic event, CFTSI facilitates trauma processing by helping affected children and caregivers identify early traumatic stress symptoms, while strengthening family/social support and teaching adaptive coping skills. In a recent clinical trial (n=106), 65 % of children who received the CFTSI intervention within 30 days of a traumatic event were less likely to meet PTSD criteria at 3-month follow-up, as compared to controls. Similarly, Cicchetti et al. [44] demonstrated that Child-Parent Psychotherapy can be effective as a preventive intervention with families at high risk for child maltreatment. This study used cortisol regulation, a common neuroendocrine indicator for stress, as an outcome marker in 91 children aged 1-3 years. It has been well documented that dysregulation of cortisol is linked to elevated levels of traumatic stress. The authors found that those children from high-risk families who received the CPP intervention had cortisol levels similar to non-maltreating families at mid- and post-treatment and were statistically better regulated than high-risk families receiving standard community services without intervention.

Useful Adjunctive Therapies

While not specifically trauma-focused, Parent Child Interaction Therapy (PCIT) [45], Attachment-Based Family Therapy (ABFT) [46], and Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS) [47] have been used with trauma-exposed children with co-occurring disorders with good outcome. PCIT provides in-session, structured coaching for parents to address child behavioral dysregulation. ABFT focuses on repairing interpersonal ruptures and re-building the caregiver-adolescent relationship after a suicide attempt, while SPARCS incorporates elements of cognitive-behavioral and dialectical behavioral therapies to address impulsive behaviors, affect regulation, self-image, and relational distortions that are common in traumatized teens [45–47].

Implementing Empirically Supported Treatments for Child Trauma

Another emerging area of scientific interest focuses upon front-line clinicians' use of evidence-based treatments and fidelity to treatment protocols when treating traumatized

children and adolescents. Allen et al. [48], in a survey of 262 clinicians regarding their knowledge and use of evidence-based treatments, found that less than one-third were able to accurately identify evidence-based treatments, other than TF-CBT. In examining a subset of those clinicians, 78 % reported being trained in TF-CBT; however, only 66 % of these clinicians used TF-CBT with full fidelity (implementing both trauma-focused and non-trauma focused components). Among those implementing only selected components, teaching relaxation skills and providing psychoeducation were the most used, whereas developing a trauma narrative and cognitive processing were less used [49]. Kolko et al. [50] also examined the treatment practices of clinicians trained in TF-CBT and found that the most frequently used techniques were cognitive-behavioral (problem-solving strategies; functional assessment of behavior; self-talk), insight-oriented (understanding causes of problems, personal motivations), and relational (reducing family conflict, strengthening family functioning). No trauma-specific techniques were included among the top ten most frequently used.

While leading researchers agree that trauma-focused therapies are the most efficacious for PTSD, several studies have examined outcome differences when trauma-focused techniques (e.g., gradual exposure, trauma narrative) are included versus excluded from treatment. In a large-scale study (n=210), Deblinger et al. [51] found significant decreases in PTSD symptoms for TF-CBT among treatment completers, regardless of whether trauma-focused techniques were incorporated. However, trauma-focused components were more effective in alleviating parents' abuse-related distress as well as children's abuse-related fear and general anxiety, while the non-trauma-focused (e.g., general CBT) conditions were more effective in improving parenting practices and decreasing child externalizing behaviors. The authors believe these results reflect the differences in content between the two types of components; specifically, general CBT components focus more on parenting problems and child behaviors, while trauma-focused components emphasize processing child and parent thoughts and feelings about the trauma experience.

In smaller studies (n=34-70), Nixon et al. [52], Salloum & Overstreet [23], and Gilboa-Schechtman et al. [15] found that traumatized children and adolescents in both treatment conditions (with or without prolonged exposure/trauma narrative) experienced significant reductions in PTSD severity and depression—65 % versus 56 % for single incident trauma in one study [52]. However, those in the exposure-based conditions demonstrated greater symptom relief and increased functioning. In another study [15], twice as many adolescents in the exposure group no longer met PTSD diagnostic criteria at post-treatment compared with those in the comparison treatment (time-limited dynamic therapy). Similarly, in pilot studies (n=23, 26) Van der Oord et al. [53] and Ruf et al. [54] demonstrated that brief narrative interventions (5-8 sessions), incorporating only trauma-focused techniques, were effective in reducing children's PTSD, depression, and behavioral problems.

Conclusion

Evidence from the studies presented suggests that while the intervention science for evidence-based child trauma treatment is progressing, the implementation science for these treatments requires further understanding and refinement. Saxe [55] and others compellingly discuss the benefits of parent engagement in trauma treatment, especially with regard to treatment retention, but further investigation is needed regarding specific methods or techniques that can be effective, especially given the potential for parents' own unresolved symptoms to impede participation. Additionally, more research is needed to determine when the inclusion of trauma-focused components is critical to treatment outcome. Similarly, we need a better understanding of why clinicians opt to use or exclude trauma-focused components as part of treatment for traumatic symptoms. Perhaps clinicians need more skill-based training in implementing these components. As one solution, Layne et al. [56•] have developed the Core Curriculum on Childhood Trauma—a comprehensive set of clinical problem-solving educational modules designed to be integrated into graduate training programs—with the goal of enhancing clinicians' conceptual knowledge and clinical judgment in trauma-informed assessment and treatment.

Although not within the scope of this review, more research is needed regarding the use of psychopharmacologic medications with traumatized children and adolescents. A recent review by Strawn et al. [57] supports the AACAP guideline recommendations that selective serotonin reuptake inhibitors (SSRIs) *not* be used as first-line treatment for PTSD in children and adolescents [5••]. Although there are limited data supporting the use of alpha-adrenergic agents, second-generation antipsychotics, and mood stabilizers for PTSD, they should be used cautiously, and only after determining that the child or adolescent may not benefit from psychotherapeutic intervention alone [5••], [57].

Another approach requiring research is the further development of early intervention/secondary prevention trauma treatment protocols using a stepped-care approach. Utilizing brief early interventions as part of a stepped-care approach might impose less of a burden for the affected child and family and less strain on an already overburdened mental health treatment system, while potentially preventing or mitigating the development of PTSD [58].

Finally, high attrition rates in trauma treatment studies (up to 60 % in some of the studies cited) as well as in clinical practice must be addressed. Research on engagement in child trauma treatment suggests that, due to the inherent nature of trauma symptoms—especially avoidance—and the need to face and process painful feelings and memories in treatment, children and parents need to be better convinced of treatment outcomes in advance and experience tangible benefits during therapy to overcome logistical barriers and emotional pulls (e.g., clients' natural tendency to resist facing emotional pain) [6, 8]. All of the issues outlined above—enhanced parent involvement, the inclusion of trauma-focused components in treatment, effective training in parent/child engagement, and the development of a stepped care approach, in addition to addressing logistical barriers (availability of treatment, transportation, etc.)—can potentially have significant bearing on attrition and should be part of the research agenda for the next decade of this field's development—especially if clinicians are going to be effective in treating traumatized children and adolescents and in building their resilience against future trauma.

Disclosure No potential conflicts of interest relevant to this article were reported.

References

Papers of particular interest, published recently, have been highlighted as:
- • Of importance
- •• Of major importance

1. • Lang JM, Ford JD, Fitzgerald MM. An algorithm for determining use of trauma-focused cognitive-behavioral therapy. Psychother. 2010;47(4):554–69. doi:10.1037/a0021184. *Provides a useful, evidence-supported algorithm to aid clinicians in deciding whether their client is appropriate for TF-CBT. Also reviews the evidence base supporting the use of TF-CBT with regard to client age, trauma type, caregiver involvement, and the presence of co-occurring disorders. Discusses the effectiveness of TF-CBT without a trauma narrative and in combination with other trauma-focused therapies.*
2. Hamblen J, Barnett E. PTSD in children and adolescents. 2011. http://www.ptsd.va.gov/professional/pages/ptsd_in_children_and_adolescents_overview_for_professionals.asp. Accessed 2 August 2012.
3. National Child Traumatic Stress Network. Changing the course of children's lives. 2011.
4. American Psychiatric Association. Proposed draft revisions to DSM disorders and criteria. 2012. http://www.dsm5.org/proposedrevision/Pages/Default.aspx. Accessed 2 August 2012.
5. •• Cohen JA, Bukstein O, Walter H, et al. Practice parameter for the assessment and treatment of children and adolescents with posttraumatic stress disorder. J Am Acad Child Adolesc Psychiatr. 2010;49(4):414–30. *Considerably updates the previous AACAP guideline, published in 1998. Discusses significant advances in the research-base and the strength of the evidence for assessing and treating child and adolescent PTSD. Provides evidence-supported recommendations for routine screening for trauma symptoms and history, formal assessment of PTSD and other disorders that may mimic PTSD, the use of trauma-focused evidence-based treatment, and the potential adjunctive use of psychopharmacologic medications.*
6. Chowdhury U, Pancha A. Post-traumatic stress disorder in children and adolescents. Community Pract. 2011;84(12):33–5.
7. Foa EB, Keane TM, Friedman MJ, et al., editors. Effective treatments for PTSD: practice guidelines from the international society for traumatic stress studies. New York: Guildford Press; 2009.
8. McKay MM, Bannon Jr WM. Engaging families in child mental health services. Child Adolesc Psychiatr Clin N Am. 2004;13(4):905–21. doi:10.1016/j.chc.2004.04.001. vii.
9. • Bernardon S, Pernice-Duca F. A family systems perspective to recovery from posttraumatic stress in children. Fam J. 2010;18(4):349–57. doi:10.1177/1066480710376618. *Especially helpful for family-based clinicians, this article summarizes the research regarding the impact of child PTSD within the family system and how contextual factors such as family functioning, family support, and the presence of PTSD in other family members can mitigate the development and treatment of child PTSD. Also describes the evidence supporting family systems interventions for child PTSD.*
10. • Lieberman AF, Chu A, Van Horn P, et al. Trauma in early childhood: empirical evidence and clinical implications. Dev Psychopathol. 2011;23(02):397–410. doi:10.1017/s0954579411000137. *An important article, given the potential inclusion of the pre-school PTSD subtype in the DSM-V, that explains the role of risk and protective factors and other diagnostic considerations in early childhood trauma and emphasizes the importance of the parent-child relationship to a child's ability to recover from traumatic experiences. Additionally assists the clinician in conceptualizing the intergenerational transmission of trauma and advocates for routine assessment of trauma and the use of relationship-based treatments, such as CPP and TF-CBT.*
11. Cohen JA, Mannarino A, Deblinger E. Treating trauma and traumatic grief in children and adolescents. New York: Guilford Press; 2006.
12. Lieberman AF, Van Horn P. Don't hit my mommy: a manual for child-parent psychotherapy with young witnesses of family violence. Washington, DC: Zero to Three Press; 2005.
13. Runyon MK, Deblinger E, Steer RA. Group cognitive behavioral treatment for parents and children at-risk for physical abuse: an initial study. Child Fam Behav Ther. 2010;32(3):196–218.
14. • Scheeringa MS, Weems CF, Cohen JA, et al. Trauma-focused cognitive-behavioral therapy for posttraumatic stress disorder in three-through six year-old children: a randomized clinical trial. J Child Psychol Psychiatry. 2011;52(8):853–60. doi:10.1111/j.1469-7610.2010.02354.x. *Examines the efficacy and feasibility of an important new Preschool PTSD intervention, adapted from TF-CBT, with children ages 3-6, experiencing a variety of traumas. Reports on outcomes, including significant decreases in PTSD symptoms, and high rates of treatment comprehension and completion. Provides clinicians with a helpful guide for using TF-CBT techniques with very young children.*
15. Gilboa-Schechtman E, Foa EB, Shafran N, et al. Prolonged exposure versus dynamic therapy for adolescent PTSD: a pilot randomized controlled trial. J Am Acad Child Adolesc Psychiatr. 2010;49(10):1034–42. doi:10.1016/j.jaac.2010.07.014.
16. Field A, Cottrell D. Eye movement desensitization and reprocessing as a therapeutic intervention for traumatized children and adolescents: a systematic review of the evidence for family therapists. J Fam Ther. 2011;33(4):374–88. doi:10.1111/j.1467-6427.2011.00548.x.

17. Clausen JM, Ruff SC, Wiederhold WV, et al. For as long as it takes: relationship-based play therapy for children in foster care. Psychoanal Soc Work. 2012;19(1–2):43–53. doi:10.1080/15228878.2012.666481.
18. Ford JD, Steinberg KL, Hawke J, et al. Randomized trial comparison of emotion regulation and relational psychotherapies for PTSD with girls involved in delinquency. J Clin Child Adolesc Psychol. 2012;41(1):27–37. doi:10.1080/15374416.2012.632343.
19. Danielson CK, McCart MR, de Arellano MA, et al. Risk reduction for substance use and trauma-related psychopathology in adolescent sexual assault victims: findings from an open trial. Child Maltreat. 2010;15(3):261–8. doi:10.1177/1077559510367939.
20. Kiser LJ, Donohue A, Hodgkinson S, et al. Strengthening family coping resources: the feasibility of a multifamily group intervention for families exposed to trauma. J Trauma Stress. 2010;23(6):802–6. doi:10.1002/jts.20587.
21. Ellis BH, Fogler J, Hansen S, et al. Trauma systems therapy: 15-month outcomes and the importance of effecting environmental change. Psychol Trauma Theory Res Pract Policy. 2011. doi:10.1037/a0025192.
22. Kazak AE, Alderfer MA, Streisand R, et al. Treatment of posttraumatic stress symptoms in adolescent survivors of childhood cancer and their families: a randomized clinical trial. J Fam Psychol. 2004;18(3):493–504. doi:10.1037/0893-3200.18.3.493.
23. Salloum A, Overstreet S. Grief and trauma intervention for children after disaster: exploring coping skills versus trauma narration. Behav Res Ther. 2012;50(3):169–79. doi:10.1016/j.brat.2012.01.001.
24. Jaycox LH. Cognitive behavioral interventions for trauma in schools. Longmont: Sopris Educational Press; 2003.
25. Saltzman WR, Pynoos RS, Layne CM, et al. Trauma- and grief-focused intervention for adolescents exposed to community violence: results of a school-based screening and group treatment protocol. Group Dynamics Theor Res Pract. 2001;5(4):291–303.
26. Dorsey S, Briggs EC, Woods BA. Cognitive-behavioral treatment for posttraumatic stress disorder in children and adolescents. Child Adolesc Psychiatr Clin N Am. 2011;20(2):255–69. doi:10.1016/j.chc.2011.01.006.
27. Cohen JA, Mannarino AP. Psychotherapeutic options for traumatized children. Curr Opin Pediatr. 2010;22(5):605–9. doi:10.1097/MOP.0b013e32833e14a2.
28. Cary CE, McMillen JC. The data behind the dissemination: a systematic review of trauma-focused cognitive behavioral therapy for use with children and youth. Child Youth Serv Rev. 2012;34(4):748–57. doi:10.1016/j.childyouth.2012.01.003.
29. Kowalik J, Weller J, Venter J, et al. Cognitive behavioral therapy for the treatment of pediatric posttraumatic stress disorder: a review and meta-analysis. J Behav Ther Exp Psychiatr. 2011;42(3):405–13. doi:10.1016/j.jbtep.2011.02.002.
30. Mannarino AP, Cohen JA, Runyon MK, et al. Trauma-focused cognitive-behavioral therapy for children sustained impact of treatment 6 and 12 months later. Child Maltreat. 2012. doi:10.1177/1077559512451787.
31. Deblinger E, Mannarino AP, Cohen JA, et al. A follow-up study of a multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. J Am Acad Child Adolesc Psychiatr. 2006;45(12):1474–84. doi:10.1097/10.chi.0000240839.56114.bb.
32. National Crime Victims Research and Treatment Center. Research support for TF-CBT. In: TF-CBT Web: a web-based learning course for trauma-focused cognitive behavioral therapy. Medical University of South Carolina Charleston. 2005. http://tfcbt.musc.edu/resources.php?p=5. Accessed 3 August 2012.
33. Hoagwood KE, Radigan M, Rodriguez J et al. Final report on the child and adolescent trauma treatment consortium (CATS) project. SAMHSA. 2006; Unpublished report.
34. Cohen JA, Mannarino AP, Iyengar S. Community treatment of posttraumatic stress disorder for children exposed to intimate partner violence: a randomized controlled trial. Arch Pediatr Adolesc Med. 2011;165(1):16–21. doi:10.1001/archpediatrics.2010.247.
35. Puccia E, Redding TM, Brown RS, et al. Using community outreach and evidenced-based treatment to address domestic violence issues. Soc Work Ment Health. 2012;10:104–26. doi:10.1080/15332985.2011.601704.
36. Weiner DA, Schneider A, Lyons JS. Evidence-based treatments for trauma among culturally diverse foster care youth: treatment retention and outcomes. Child Youth Services Rev. 2009;31(11):1199–205. doi:10.1016/j.childyouth.2009.08.013.
37. Cohen JA, Mannarino AP, Staron VR. A pilot study of modified cognitive-behavioral therapy for childhood traumatic grief (CBT-CTG). J Am Acad Child Adolesc Psychiatr. 2006;45(12):1465–73. doi:10.1097/01.chi.0000237705.43260.2c.
38. Cohen JA, Mannarino AP. Trauma-focused CBT for traumatic grief in military children. J Contemp Psychother. 2011;41(4):219–27. doi:10.1007/s10879-011-9178-0.
39. Schottelkorb AA, Doumas DM, Garcia R. Treatment for childhood refugee trauma: a randomized, controlled trial. Int J Play Ther. 2012;21(2):57–73. doi:10.1037/a0027430.
40. Ghosh Ippen C, Harris WW, Van Horn P, et al. Traumatic and stressful events in early childhood: can treatment help those at highest risk? Child Abuse Negl. 2011;35(7):504–13. doi:10.1016/j.chiabu.2011.03.009.
41. • Runyon MK, Deblinger E, Schroeder CM. Pilot evaluation of outcomes of combined parent-child cogntive-behavioral group therapy for families at risk for child physical abuse. Cogn Behav Pract. 2009;16:101–18. *Reports on outcomes from the first trauma-focused multifamily-based intervention specifically designed to be implemented with caregivers who have engaged in an act of physical abuse or excessive physical punishment. Describes the treatment model, which teaches positive parenting strategies, increases positive parent–child interactions, and addresses abuse–related PTSD in children through gradual exposure therapy.*
42. Kemp M, Drummond P, McDermott B. A wait-list controlled pilot study of eye movement desensitization and reprocessing (EMDR) for children with post-traumatic stress disorder (PTSD) symptoms from motor vehicle accidents. Clin Child Psychol and Psychiatr. 2010;15(1):5–25.
43. • Berkowitz SJ, Stover CS, Marans SR. The child and family traumatic stress intervention: secondary prevention for youth at risk of developing PTSD. J Child Psychol Psychiatry. 2011;52(6):676–85. doi:10.1111/j.1469-7610.2010.02321.x. *Presents promising findings from one of the first large-scale trials of a four-session early intervention protocol for child PTSD. Describes the model, which is designed to be delivered within 30 days of a potentially traumatic event, such as a motor vehicle accident, abuse, witnessing, or being involved in community violence and reports on outcomes with 105 youth, including significant reductions in full or partial PTSD at 3-month follow-up.*
44. Cicchetti D, Rogosch FA, Toth SL, et al. Normalizing the development of cortisol regulation in maltreated infants through preventive interventions. Dev Psychopathol. 2011;23(3):789–800. doi:10.1017/S0954579411000307.
45. Eyberg SM, Funderburk BW, Hembree-Kigin T, et al. Parent-child interaction therapy with behavior problem children: one- and two-year maintenance of treatment effects in the family. Child Fam Behav Ther. 2001;23(4):1–20.
46. Diamond GS, Wintersteen MB, Brown GK, et al. Attachment-based family therapy for adolescents with suicidal ideation: a randomized controlled trial. J Am Acad Child Adolesc Psychiatr. 2010;49(2):122–31.

47. DeRosa R, Pelcovitz D. Treating traumatized adolescent mothers: a structured approach. In: Boyd-Webb N, editor. Working with traumatized youth in child welfare. New York: Guilford Press; 2005. p. 219–45.
48. Allen B, Gharagozloo L, Johnson JC. Clinician knowledge and utilization of empirically-supported treatments for maltreated children. Child Maltreat. 2012;17(1):11–21. doi:10.1177/1077559511426333.
49. Allen B, Johnson JC. Utilization and implementation of trauma-focused cognitive-behavioral therapy for the treatment of maltreated children. Child Maltreat. 2012;17(1):80–5. doi:10.1177/1077559511418220.
50. Kolko DJ, Cohen JA, Mannarino AP, et al. Community treatment of child sexual abuse: a survey of practitioners in the National Child Traumatic Stress Network. Adm Policy Ment Health. 2009;36(1):37–49. doi:10.1007/s10488-008-0180-0.
51. Deblinger E, Mannarino AP, Cohen JA, et al. Trauma-focused cognitive behavioral therapy for children: impact of the trauma narrative and treatment length. Depress Anxiety. 2011;28(1):67–75. doi:10.1002/da.20744.
52. Nixon RD, Sterk J, Pearce A. A randomized trial of cognitive behaviour therapy and cognitive therapy for children with post-traumatic stress disorder following single-incident trauma. J Abnorm Child Psychol. 2012;40(3):327–37. doi:10.1007/s10802-011-9566-7.
53. Van der Oord S, Lucassen S, Van Emmerik AA, et al. Treatment of post-traumatic stress disorder in children using cognitive behavioural writing therapy. Clin Psychol Psychother. 2010;17(3):240–9. doi:10.1002/cpp.670.
54. Ruf M, Schauer M, Neuner F, et al. Narrative exposure therapy for 7- to 16-year-olds: a randomized controlled trial with traumatized refugee children. J Trauma Stress. 2010;23(4):437–45.
55. Saxe GN, Ellis BH, Fogler J, et al. Innovations in practice: preliminary evidence for effective family engagement in treatment for child traumatic stress-trauma systems therapy approach to preventing dropout. Child Adolesc Ment Health. 2012;17(1):58–61. doi:10.1111/j.1475-3588.2011.00626.x.
56. • Layne CM, Ippen CG, Strand V, et al. The core curriculum on childhood trauma: a tool for training a trauma-informed workforce. Psychol Traum Theor Res Pract Pol. 2011;3(3):243–52. doi:10.1037/a0025039. *Discusses the conceptual framework for an impressive new curriculum-based training program to help clinicians expand their expertise in treating trauma-exposed children and adolescents and its significance in developing a more trauma-informed workforce. Also describes the curriculum's pilot implementation, using problem-based learning and detailed clinical vignettes to improve the clinical judgment of 43 graduate social work students in field placements working with traumatized children.*
57. Strawn JR, Keeshin BR, DelBello MP, et al. Psychopharmacologic treatment of posttraumatic stress disorder in children and adolescents: a review. J Clin Psychiatr. 2010;71(7):932–41.
58. Berkowitz SJ, Watson PJ, Brymer MJ. Early preventive interventions for adolescents exposed to a potentially traumatic event. Minerva Pediatr. 2011;63(3):201–15.