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EVIDENCE BASE UPDATE

Evidence Base Update for Psychosocial Treatments for Children and Adolescents Exposed to Traumatic Events

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Child and adolescent trauma exposure is prevalent, with trauma exposure-related symptoms, including posttraumatic stress, depressive, and anxiety symptoms often causing substantial impairment. This article updates the evidence base on psychosocial treatments for child and adolescent trauma exposure completed for this journal by Silverman et al. (2008). For this review, we focus on 37 studies conducted during the seven years since the last review. Treatments are grouped by overall treatment family (e.g., cognitive behavioral therapy), treatment modality (e.g., individual vs. group), and treatment participants (e.g., child only vs. child and parent). All studies were evaluated for methodological rigor according to *Journal of Clinical Child & Adolescent Psychology* evidence-based treatment evaluation criteria (Southam-Gerow & Prinstein, 2014), with cumulative designations for level of support for each treatment family. Individual CBT with parent involvement, individual CBT, and group CBT were deemed *well-established*; group CBT with parent involvement and eye movement desensitization and reprocessing (EMDR) were deemed *probably efficacious*; individual integrated therapy for complex trauma and group mind–body skills were deemed *possibly efficacious*; individual client-centered play therapy, individual mind–body skills, and individual psychoanalysis were deemed *experimental*; and group creative expressive + CBT was deemed *questionable efficacy*. Advances in the evidence base, with comparisons to the state of the science at the time of the Silverman et al. (2008) review, are discussed. Finally, we present dissemination and implementation challenges and areas for future research.

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Trauma exposure is pervasive among children and adolescents. Epidemiological data indicate that nearly two thirds of children in the United States will experience a traumatic event before their 18th birthday (Copeland, Keeler, Angold,

& Costello, 2007; McLaughlin et al., 2013). Although comparable epidemiological studies are not available internationally, substantial rates of trauma exposure during childhood and adolescence have also been reported in other high-income (e.g., Trocmé & Wolfe, 2001) and low-income (e.g., Benjet et al., 2009) countries. In the United States, adolescence in particular may be a period of high risk for exposure to virtually all types of traumatic events, including interpersonal violence, accidents, injuries, unexpected loss of a loved one, and traumatic events that happen to friends or family (Breslau et al., 1998; Finkelhor, Ormrod, & Turner, 2009); U. S. Census Bureau, 2012).

Although not all children exposed to trauma have symptoms of distress, an array of short- and long-term mental health consequences have been identified in the literature. Symptoms of posttraumatic stress disorder (PTSD) are perhaps one of the most researched responses that may develop following exposure to a traumatic event and are the symptom category most often used for study inclusion criteria. Population-based studies suggest that approximately 7% of girls and 3%–4% of boys develop PTSD during childhood or adolescence (Kilpatrick et al., 2003; McLaughlin et al., 2013). Many more exhibit subclinical levels or symptoms of PTSD (Copeland et al., 2007). PTSD is associated with numerous adverse developmental consequences for children and adolescents in cognitive, academic, social, emotional, and other functional domains (De Bellis, Hooper, Woolley, & Shenk, 2010; Leskin & White, 2007; Moradi, Taghavi, Neshat-Doost, Yule, & Dalgleish, 2000; Trickett, Noll, & Putnam, 2011) and with an elevated risk for the subsequent onset of other mental disorders (e.g., depression, anxiety; Giaconia et al., 1995). Other mental health sequelae of trauma-exposed youth include behavioral problems, depressive symptoms, and anxiety (19.2%, 12.1%, and 9.8%, respectively, in the Great Smoky Mountains Study; Copeland et al., 2007). Potentially most important, among children with any exposure, more than one fifth (21.9%) report significant impairment, with higher rates of impairment for two or more exposures (49.6%; Copeland et al., 2007). Timely delivery of evidence-based treatment (EBT) to children and adolescents with trauma-related mental health sequelae is critical to prevent negative consequences of trauma exposure.

Given the pervasive nature of trauma exposure and potential mental health consequences, the field has attempted to consolidate knowledge about treatment approaches. The primary purpose of this article is to update the review published in this journal in 2008 (Silverman et al., 2008) on psychosocial EBTs for children and adolescents exposed to trauma. In their review, the authors evaluated 21 randomized controlled trials (RCTs). Two treatments, both of which were cognitive behavioral therapies (CBTs), met either the *well-established* or *probably efficacious* criteria for improving child and adolescent outcomes (e.g., Posttraumatic Stress Symptoms [PTSS], depressive symptoms, anxiety symptoms, and externalizing behavior problems). Trauma-focused cognitive behavioral therapy (TF-CBT; Cohen, Deblinger, & Mannarino, 2006) was rated as *well-*

established and school-based group cognitive-behavioral therapy (Kataoka et al., 2003) was rated as *probably efficacious*. All other included treatments were classified as *possibly efficacious* or *experimental*. Across all 21 RCTs, meta-analytic results indicated that effect sizes were medium for PTSS (Cohen's $d = 0.43$), followed by small effects for depression and externalizing behavior problems (0.24 and 0.22, respectively) and minimal effects for anxiety (0.09). Three potential moderators, each aggregated at two levels given the small number of studies, were examined: type of treatment, trauma type, and parental involvement. Type of treatment moderated effectiveness, with CBT (vs. non-CBT) having more than 2 times the effect size of non-CBT for PTSS (0.50 vs. 0.19), depression (0.29 vs. 0.08), and externalizing behavior problems (0.24 vs. 0.02). Type of trauma—child sexual abuse versus other types—moderated outcomes, with larger effect sizes when sexual abuse was the focus for internalizing outcomes (PTSS and depression, $d = 0.30$ – 0.46) and smaller effect sizes for externalizing behavior problems, compared to other trauma types (0.19 vs. 0.28; inclusive of family violence and physical abuse). Parental involvement (child and parent participate vs. child only; collapsed across treatment types) had more mixed results, depending on whether treatments were being compared to other active treatments or no treatment controls. However, taken together, there was little difference for PTSS (0.42 vs. 0.44) and slightly less effectiveness for depression (0.19 vs. 0.25) when parents were involved. Anxiety differed substantially, favoring parent involvement (0.16 vs. -0.01). Surprisingly, results supported child-only treatment for improving externalizing behavior problems (0.14 vs. 0.34). When treatments with active control groups were examined separately, effect sizes were similar or slightly smaller.

Since the Silverman et al. (2008) review, there have been a substantial number of studies on treatments targeting mental health symptoms related to trauma exposure, necessitating an update to the evidence base. Also during this same period, our search identified 17 other reviews of treatment for child trauma exposure sequelae (see Table 1), each taking a slightly different approach toward reviewing in terms of inclusion criteria, index trauma (e.g., sexual abuse, war exposure), setting or modality (e.g., group therapy, interventions in schools), or treatment focus (e.g., CBT-only interventions, single name-brand, treatment-focused review [e.g., TF-CBT]).

These included qualitative, systematic, and meta-analytic reviews, with conclusions from most reviews providing support for CBT (see Table 1 for more details).

Does the Field Need Another Review of Trauma Treatment Interventions? Specific Contribution of This Evidence Base Update

In the current evidence base update article, we advance the science by examining the evidence for treatment of symptoms related to child trauma exposure since the Silverman et al. (2008) review. Like Silverman et al., we include all types of trauma exposure, from sexual abuse and other forms of child

TABLE 1
Description of Treatment Reviews for Children and Adolescents Exposed to Traumatic Events

| <i>Study</i> | <i>Type of Review</i> | <i>Age; Years Covered, Study N; Treatment Type; Criteria (i.e., Trial Types, Trauma Type, Use of Measures, etc.)</i> | <i>Findings</i> |
|---|----------------------------------|---|---|
| Cary & McMillen, 2012 | Systematic Review; Meta-Analysis | Age: < 18; 1990–2011; <i>N</i> = 10 Tx: TF-CBT or similar interventions (e.g. CBITS, CBT, & RAPP); Crx: RCTs, used at least 4 of the major components of TF-CBT; participants had survived at least one traumatic event, assessed syx of PTSD; | PTS: moderate ES ($g = .671$); depr and bx problems: small ES ($g = .378; .247$); ES similar for “branded” TF-CBT and similar interventions; PTS effect maintained at 1-yr |
| De Arellano et al., 2014 | Qualitative | Age: Not reported; 1995–2013; <i>N</i> = 16 Tx: TF-CBT; Crx: RCTs, quasi-experimental; open trials; meta-analyses & systematic review articles; | High level of evidence for TF-CBT for PTS: compared to active control, TF-CBT groups showed consistent decreases in PTSD syx, maintained at 12-month FU; moderate/mixed evidence for TF-CBT effectiveness on bx problems & depr syx |
| Dorsey, Briggs, & Woods, 2011 | Qualitative | Age: Not reported; Years covered not reported; <i>N</i> not reported Tx: TF-CBT, CBITS, TGCT, TST, CPC-CBT, SPARCS, TFC (aka MMTT), RRFT, TARGET-A; Crx: RCTs, quasi-experimental, open trials, field trials, single-case cross-setting design; | PTSD syx improved, retained over time |
| Dowd & McGuire, 2011 | Qualitative | Age: 3–18; Years covered not reported; <i>N</i> not reported Tx: Interventions w/empirical support (individual & group CBT, TF-CBT, Anxiety Management Training, EMDR, behavioral, CISD, psychodynamic, Parental/Family involvement, emerging therapies [e.g., Child-Parent Psychotherapy; Kids Club]); Crx: Trauma exp, children w/PTSD syx; | Strong evidence for TF-CBT w/range of ages and traumas; EMDR well-supported; anx management and behavioral tx alone not shown to be effective (but typically included in TF-CBT); group CBT has some support especially in response to community-wide events; little evidence for Psychodynamic, Play, Art Therapy, or CISD; CISD may have negative effects |
| Forman-Hoffman et al., 2013 | Qualitative | Age: < 18; 1990 onward; <i>N</i> = 25 Tx: TF-CBT, CFTSI, mixed, early psychological intervention, pharmacotherapies Crx: Trauma exp, psychotherapy, pharmacotherapy; | Most studies comparing tx with WLC show improvement; studies comparing tx with active controls showed no improvement (with one exception); school-based CBT appeared promising; little evidence on effectiveness related to individual child differences |
| Fraser et al., 2013 | Systematic Review | Age: < 14; 1990–2012; <i>N</i> = 17 Tx: Pharmacological and psychosocial interventions (e.g., parent-mediated approaches or TF treatments); Crx: RCTs (6 TF treatments, 10 parenting interventions), NCT (1 TF treatment), U.S. & international; | Strength of evidence low for all but one of the interventions |
| Gillies, Taylor, Gray, O’Brien, & D’Abrew, 2012 | Systematic Review; Meta-Analysis | Age: 3–18; Years covered not reported; <i>N</i> = 14 Tx: All psychological therapies including CBT, exposure-based, psychodynamic, narrative, supportive counseling, family-based, & EMDR; Crx: RCTs; children/adolescents exposed to traumatic event or diagnosed w/PTSD; | Across all therapies, improvement for syx of PTSD, anx, and depr within 1 mo of completing therapy compared to a control group; CBT had best evidence of effectiveness |
| Harvey & Taylor, 2010 | Meta-Analysis | Age: < 18; Years covered not reported; <i>N</i> = 39 Tx: CBT or insight-oriented; Crx: Results based on empirical measures, studied tx outcomes for CSA with children/adolescents, at least 50% sample experienced CSA, no single case studies; enough data to calculate ES, independent data set; | CBT approaches: biggest trx effect; large ES for global outcomes ($g = 1.37$), PTSD/trauma ($g = 1.12$); moderate ES for int ($g = 0.74$), ext syx ($g = 0.52$); effects maintained at FU (> 6 mo) for some outcomes |
| Jordans, Tol, Komproe, & De Jong, 2009 | Systematic Review; Meta-Analysis | Age: Not reported; 1991–2008; <i>N</i> = 66 Tx: All treatment types; Crx: Children affected by protracted violence & long-term complex emergencies in low- and middle-income countries; | Scarcity of rigorous studies, diversity of interventions, & mixed results of evaluations; this study contained 54 intervention descriptions and 12 tx outcome studies with moderate ES |

(Continued)

TABLE 1
(Continued)

| <i>Study</i> | <i>Type of Review</i> | <i>Age; Years Covered, Study N; Treatment Type; Criteria (i.e., Trial Types, Trauma Type, Use of Measures, etc.)</i> | <i>Findings</i> |
|---|----------------------------------|---|--|
| Kowalik, Weller, Venter, & Drachman, 2011 | Meta-Analysis | Age: < 18; 1966–2010; <i>N</i> = 8 Tx: CBT for pediatric PTSD vs. active control group (unstructured psychotherapy, nondirective supportive treatment, child-centered therapy) Crx: RCT; used CBCL; | CBT effective in treating childhood PTSD; CBT interventions improved scores on Total Problems, Int, and Ext scales of CBCL relative to active control; some evidence CBT better addresses int vs. ext syx |
| Leenarts, Diehle, Doreleijers, Jansma, & Lindauer, 2013 | Systematic Review | Age: 6–17; 2000–2012; <i>N</i> = 33 Tx: CBT techniques vs. WLC, delayed treatment, TAU, other active treatments, or no treatments; Crx: RCTs or non-randomized trials, exp to CM, assess PTSD or PTSD syx associated with CM; | TF-CBT: best-supported treatment for children following CM; CBITS is the best treatment option for children who can be treated in groups in their school settings |
| Macdonald et al., 2012 | Meta-Analysis | Age: < 18; Up to 2011; <i>N</i> = 10 Tx: CBT vs. WLC or TAU; Crx: Randomized or quasi-randomized controlled trials of CBT, children/adolescents who experienced CSA; | CBT may have positive impact, but results not statistically significant; Moderate effects in reducing PTSD, depr, & anx syx |
| Pfefferbaum, Newman, & Nelson, 2014 | Qualitative | Age: Not reported; Search conducted January 2013; <i>N</i> = 85 Tx: Interventions used w/children exposed to disasters and terrorism (preparedness interventions, psychological first aid, psychological debriefing, psychoeducation, CBT techniques, exp and TN, EMDR, and TG); Crx: Intervention studies w/outcomes, only non-interpersonal trauma; | Preparedness interventions, CBT in multiple forms, & traumatic grief interventions appear beneficial; exp and narrative interventions and EMDR have positive outcomes but unclear if superior to other trx |
| Rodenberg, Benjamin, de Roos, Meijer, & Stams, 2009 | Meta-Analysis | Age: < 18; 2002–2008; <i>N</i> = 7 Tx: EMDR vs. established trauma treatments or TAU or WLC; Crx: children/adolescents treated for post-traumatic stress reactions, RCT; pre- and post- treatment trauma scores | EMDR is efficacious in treating PTSD sx; EMDR shows incremental efficacy compared to established trx, WLC, and TAU |
| Rolfesnes & Idsoe, 2011 | Meta-Analysis | Age: Not reported; Search conducted May 2010; <i>N</i> = 19 Tx: School-based intervention targeting PTSD syx (CBT, play/art, EMDR, mind-body skills); Crx: Randomized or quasi-experimental w/at least 1 WLC or alternative intervention control; school setting; trauma exp; standardized PTSD instruments; | Medium-large ES (<i>d</i> = 0.68) for PTSD syx |
| Trask et al., 2011 | Meta-Analysis | Age: < 18; 1960–2006; <i>N</i> = 35 Tx: negative outcomes of CSA (PTSD syx, ext and int problems); Crx: Single group and between group designs; | Individual and group treatments equally effective for children exposed to CSA; group may be the most practical treatment modality |
| Wethington et al., 2008 | Systematic Review; Meta-Analysis | Age: ≤ 21; Up to 2007; <i>N</i> = 11 Tx: Individual or group CBT, play, art, psychodynamic, and pharmacologic therapy; psychological debriefing); Crx: trauma exp & at least one mental health syx, included only primary studies of high-income countries & a control group; | Community Guide Rules: CBT (individual and group) had the best evidence; insufficient evidence for all other interventions |

Note. anx = anxiety; bx = behavior; CBCL = Child Behavior Checklist = CBITS: Cognitive Behavioral Intervention for Trauma in Schools; CBT = Cognitive Behavioral Therapy; CFTSI = Child and Family Traumatic Stress Intervention; CISD = Critical Incident Stress Debriefing; CM = child maltreatment; CPC-CBT = Combined Parent-Child Cognitive Behavioral Approach for Children and Families; crx = criteria; CSA = Childhood Sexual Assault; depr = depression; EMDR = Eye Movement Desensitization and Reprocessing; ES = effect size; exp = exposure; ext = externalizing; FU = follow-up; int = internalizing; MMTT = Multimodality Trauma Treatment; mo = month; NCT = nonrandomized controlled trial; PTSD = Post-Traumatic Stress Disorder; RAPP = Recovering from Abuse Program; RCT = Randomized controlled trial; RRFT = Risk Reduction through Family Therapy; SPARCS = Structures Psychotherapy for Adolescents Responding to Chronic Stress; syx = symptoms; TARGET-A = Trauma Adaptive Recovery Group Education and Therapy for Adolescents and Pre-Adolescents; TAU = Treatment as Usual; TF = trauma-focused; TFC = Treatment Fidelity Checklist; TF-CBT = Trauma-Focused Cognitive Behavioral Therapy; TG = traumatic grief; TGCT = Trauma and Grief Component Therapy; TN = trauma narrative; TST = Trauma Systems Therapy; tx = treatment; WLC = waitlist control; yr = year

maltreatment to natural disaster and war/systematic violence exposure. We include a broad range of treatment approaches (e.g., CBT, eclectic, play therapy), as well as individual and group delivery modalities. We chose not to limit our review to RCTs to better capture research focused on ethnically and culturally diverse populations and conducted in varying settings and contexts. Another unique aspect of this review is a focus on intervention setting and on who delivered the intervention. Increasingly in trauma treatment, the evidence base includes studies conducted in usual care settings (i.e., schools, public mental health clinics vs. university or hospital-affiliated clinics), with delivery of interventions by providers already employed in these settings (vs. highly trained, doctoral-level mental health professionals).

This review focuses only on studies that specifically assessed child and adolescent participants for both trauma exposure (experienced or witnessed) and mental health symptom impact (e.g., elevation on some indicator of mental health problems). This method excludes a large number of studies that meet only one of these criteria (e.g., trauma exposure but not mental health symptoms) or assume child exposure due to residence in an area with high rates of violence. These inclusion criteria differ from those in the Silverman et al. (2008) review, in which symptom inclusion was not required. In addition, only RCTs were examined in Silverman et al., and the focus was on “name-brand” treatments and not classes of treatment (e.g., individual CBT). Limiting included studies to those that assess for trauma impact—and not only exposure—is in line with recommendations from Foa and Meadows (1997) and other reviews in this evidence base update series. Foa and Meadows (1997) argued that including non- or mildly symptomatic participants can be problematic, as treatment effects can be either minimized (as it may be difficult to detect improvement) or inflated (given that participants with mild symptoms at baseline may also have only mild symptoms at follow-up).

One of the most beneficial contributions of this review is organization by treatment classes or treatment families (Southam-Gerow & Prinstein, 2014; similar to review conducted by Wethington et al., 2008). Treatments have a number of common or overlapping elements, and understanding treatment effectiveness while taking into account this overlap is important for knowledge management. Dissemination and implementation researchers increasingly have been moving in the direction of identifying and testing approaches that distill these common elements (e.g., Weisz et al., 2012) to simplify recommendations for the field and for training providers.

Our goal, given the combination of recent growth in studies focused on treating symptoms related to trauma exposure and Southam-Gerow and Prinstein’s (2014) expanded evidence review criteria (see Table 2), is to provide a broader, more inclusive review of the evidence for overarching treatment classes, with attention to relevant aspects for dissemination and implementation (e.g., testing under more usual care conditions) and decision-making around next steps for the research. Including attention to these aspects allows for a better

understanding of the potential impact of these treatments if they attained greater population reach. Although we included a broad range of studies (i.e., not only RCTs), methodological strengths and weaknesses for each study are taken into account in evidence ratings. This allowed for comprehensiveness in study inclusion as well as the ability to weigh study rigor when assigning level of evidence. Results of our review are organized by level of evidence, starting with treatments that attained the highest level of evidence.

METHOD

Search Parameters and First-Round Inclusion Criteria

A systematic, comprehensive literature search was conducted in PsycINFO and PubMed with the aim of identifying all peer-reviewed articles related to the treatment of trauma-related sequelae in children and adolescents. Several steps were taken in the search process to maximize the number of relevant articles returned while minimizing the number of irrelevant articles (see Figure 1). First, the authors generated an inclusive list of search terms related to two categories: trauma exposure and treatment. Second, the authors refined the items on this list for PsycINFO and PubMed queries. In PsycINFO, each author-generated term was entered into the Thesaurus Authority File search tool—which contains terms from the American Psychological Association’s Thesaurus of Psychological Index—and replaced with all relevant returned search terms. For example, the author-generated search term “trauma” was replaced with “emotional trauma,” “posttraumatic growth,” “debriefing (psychological),” and “eye movement desensitization therapy.” Similarly, in the PubMed database, the Medical Subject Headings thesaurus search tool—which contains the controlled search term vocabulary for the National Library of Medicine—was used to refine each author-generated search term. For example, the term “treatment” was replaced with “treatment outcome,” a more specific search term used within the PubMed database. Third, search results were limited by publication date (January 2007–May 2014), species (humans), age (0–18 years), and publication type (peer-reviewed journal). Fourth, to maximize the number of relevant articles returned, all terms were simultaneously entered into the search to include all cross-category ([1] trauma exposure, [2] treatment) combinations. To ensure all returned articles pertained to both trauma exposure and treatment, the AND operator was used to separate the two categories and, within each category, search terms were separated using the OR operator.

All studies included in this evidence base update passed through two rounds of review (see Figure 1). Articles were selected for the first round if they satisfied the initial inclusion criteria: (a) participants with potential trauma exposure (following the *Diagnostic and Statistical Manual of Mental Disorders* [4th ed.; American Psychiatric Association, 1994] definition) and (b) measures of psychological outcomes. Relevant

TABLE 2
JCCAP Evidence Base Updates Evidence-Based Treatment Evaluation Criteria

Methods criteria

- M.1. Group design: Study involved a randomized controlled design
 M.2. Independent variable defined: Treatment manuals or logical equivalent were used for the treatment
 M.3. Population clarified: Conducted with a population, treated for specified problems, for whom inclusion criteria have been clearly delineated
 M.4. Outcomes assessed: Reliable and valid outcome assessment measures gauging the problems targeted (at a minimum) were used
 M.5. Analysis adequacy: Appropriate data analyses were used and sample size was sufficient to detect expected effects
-

Level 1: Well-Established Treatments

Evidence criteria

- 1.1 Efficacy demonstrated for the treatment by showing the treatment to be either:
 1.1.a. Statistically significantly superior to pill or psychological placebo or to another active treatment
 OR
 1.1.b. Equivalent (or not significantly different) to an already well-established treatment in experiments
 AND
 1.1.c. In at least two (2) independent research settings and by two (2) independent investigatory teams demonstrating efficacy
 AND
 1.2. All five (5) of the Methods Criteria
-

Level 2: Probably Efficacious Treatments

Evidence criteria

- 2.1 There must be at least two good experiments showing the treatment is superior (statistically significantly) to a waitlist control group
 OR
 2.2 One (or more) experiments meeting the Well-Established Treatment level except for criterion 1.1c (i.e., Level 2 treatments will not involve independent investigatory teams)
 AND
 2.3 All five (5) of the Methods Criteria
-

Level 3: Possibly Efficacious Treatments

Evidence criteria

- 3.1 At least one good randomized controlled trial showing the treatment to be superior to a waitlist or no-treatment control group
 AND
 3.2 All five (5) of the Methods Criteria
 OR
 3.3 Two or more clinical studies showing the treatment to be efficacious, with two or more meeting the last four (of five) Methods Criteria, but none being randomized controlled trials
-

Level 4: Experimental Treatments

Evidence criteria

- 4.1. Not yet tested in a randomized controlled trial
 OR
 4.2. Tested in one or more clinical studies but not sufficient to meet Level 3 criteria

Level 5: Treatments of Questionable Efficacy

- 5.1. Tested in good group-design experiments and found to be inferior to other treatment group and/or wait-list control group, that is, only evidence available from experimental studies suggests the treatment produces no beneficial effect
-

Note. Adapted from Silverman and Hinshaw (2008) and Division 12 Task Force on Psychological Interventions' reports (Chambless et al., 1996, 1998), from Chambless and Hollon (1998), and from Chambless and Ollendick (2001). Chambless and Hollon (1998) described criteria for methodology.

information was gathered from article titles, abstracts, and method sections; decisions erred on the side of overinclusion. Although research articles were the focus of the search, relevant review articles returned by the search were also examined for additional references. This search and review method yielded 188 articles, which were included in the second-round review.

Second-Round Inclusion Criteria to Identify the Study Pool

In the second-round review, the goal was to identify the final set of studies. Five authors made the final decision for article

inclusion using a stricter set of inclusion/exclusion criteria, detailed in Figure 1 (e.g., sample was 18 or younger, study focused on treatment of trauma-exposure sequelae, etc.). Studies examining pharmacological interventions were not included unless they were paired with a psychosocial intervention. During this review round, authors read the full-text articles. Out of the 188 articles from the first round, 151 were excluded in the second round, leaving 37 articles included in the review.

Categorization by Treatment Family

Included studies were coded by modality (group vs. individual delivery), treatment participants (child only vs. child and

parent), and treatment type. Studies with fewer than 50 participants were categorized as “small.” Treatments were categorized as including “parent involvement” if one or more parents were involved nearly 50% or more of the time (via parent-only or combined child–parent sessions, and/or observation of sessions). Treatments that included minimal or optional parent involvement were coded as “child.” Categorization of treatment type was typically straightforward in that treatments’ names or descriptions included their primary theoretical basis (e.g., CBT, psychodynamic, attachment). However, in some instances, the treatment included more than one theoretical basis or was eclectic. In these situations, treatments were categorized by primary theoretical basis with notation of other theoretical influences.

RESULTS

Our review is based on 37 studies that were published since 2007 that met the review criteria (see Table 3). Six (16.2%) of these focused on sexual abuse, suggesting that studies of treatment for trauma-related symptoms have broadened in focus since the last review beyond predominantly sexually abused children and adolescents. Twenty studies included children with varying trauma exposure (54.1%), six with exposure to terrorism/war (16.2%), three with childhood physical abuse and/or family violence (8.1%), two with exposure to other traumatic events (5.4%), one study with exposure to natural disaster/death, and one study with exposure to other (i.e., factory explosion). Of those that reported ethnicity/cultural group, 13 (35.1%) were conducted with diverse cultural or ethnic populations, and 17 (45.9%) were conducted outside the United States. Schools were the most common treatment setting (10; 27%), followed by community clinics (7; 19%) and university or hospital-based clinics (6; 16%). Seven studies did not report treatment setting. Although not always reported clearly in the studies, providers were mostly master’s level and trainees, which is representative of individuals who deliver the vast majority of mental health treatment. Five studies (13.5%) used non-mental-health professionals. Similar to the Silverman et al. (2008) review, outcome variables most commonly assessed were PTSD and PTSS (35 of 37 studies; 94.6%), with depression being the second most commonly assessed outcome (19; 51.4%). In contrast to the prior review, a greater percentage of studies (17; 45.9%) assessed externalizing behavior problems. Other child-level outcomes assessed by two or more studies included functioning (13; 35.1%), anxiety (10; 27%), general mood symptoms (5; 13.5%), sexual behavior (3; 8.1%), strength/resiliency (3; 8%), and grief (2; 5%).

Our narrative review provides a summary of research findings for each treatment family. Results are organized by level of evidence for each treatment family (see Table 4), with treatments in Levels 1 and 2 described.

Level 1: Well-Established

Individual CBT with Parent Involvement

The Silverman et al. (2008) review included six studies testing individual CBT with parent involvement, four of which tested TF-CBT specifically (Cohen et al., 2006). Five of the six focused on sexual abuse as the index traumatic event. TF-CBT remains the most commonly studied version of child- and parent-focused CBT. TF-CBT includes approximately 10–12 parallel, mostly separate child and parent sessions, with parents receiving the same elements as their children. Some treatment sessions include the child and parent together (i.e., conjoint sessions). Treatment elements include psychoeducation about trauma exposure and PTSS; coping skills (e.g., affect identification/modulation, relaxation, cognitive coping); imaginal exposure (i.e., explicitly recalling details, thoughts, and feelings about traumatic experiences; often through drawings, writing, or other creative mechanisms); in vivo exposure (i.e., through confronting innocuous trauma reminders); cognitive restructuring of maladaptive, trauma-related cognitions; and safety skills training. Parents are also taught parenting skills (e.g., praise, contingency management). Other individual CBT approaches with parent involvement, at least to date, include relatively similar treatment elements with some variation in how parents were involved (e.g., parallel sessions, conjoint sessions, observation of child sessions) and in whether elements were added (e.g., harm reduction for adolescents with substance use) or removed (e.g., cognitive processing for preschool children) based on youth age and comorbidity.

Since the original review, there have been 11 studies that met review criteria, including eight additional RCTs and three open trials (Danielson et al., 2010; Misurell, Springer, Acosta, Liotta, & Kranzler, 2014; Murray et al., 2013). The research is still dominated by studies of TF-CBT (six of 11 studies), although three studies tested substantially adapted versions of TF-CBT and three studies tested other individual CBT with parent involvement approaches. Collectively, these 11 studies provide additional empirical support for TF-CBT specifically, and more support for the overall treatment family given increased research attention to alternative approaches. In the five RCTs testing CBT compared to non-CBT comparison conditions, for PTSS, individual CBT with parent involvement outperformed the waitlist control (WLC; Scheeringa, Weems, Cohen, Amaya-Jackson, & Guthrie, 2011) and outperformed (Cohen, Mannarino, & Iyengar, 2011; Danielson et al., 2012, by parent-report; Jensen et al., 2014) or was equivalent to (Danielson et al., 2012, by child-report) usual care or other active treatment (De Roos et al., 2011). Superior outcomes also were obtained for depression and anxiety in most studies (see De Roos et al., 2011, for an exception). Of note, a primary strength of research on approaches in this

- Step 1:** Generated search terms related to: (a) trauma exposure, (b) treatment.
- Step 2:** Replaced author-generated terms with synonyms generated from PsychInfo and PubMed thesauri.
- Step 3:** Entered terms into search engines to ensure all cross-category combinations ([a] trauma exposure, [b] treatment) were returned.
- Step 4:** Set search parameters to: Publication date (Jan. 1 2007 – May 1 2014); Species (Human), Age (0-18 years); Publication type (peer-reviewed journal)

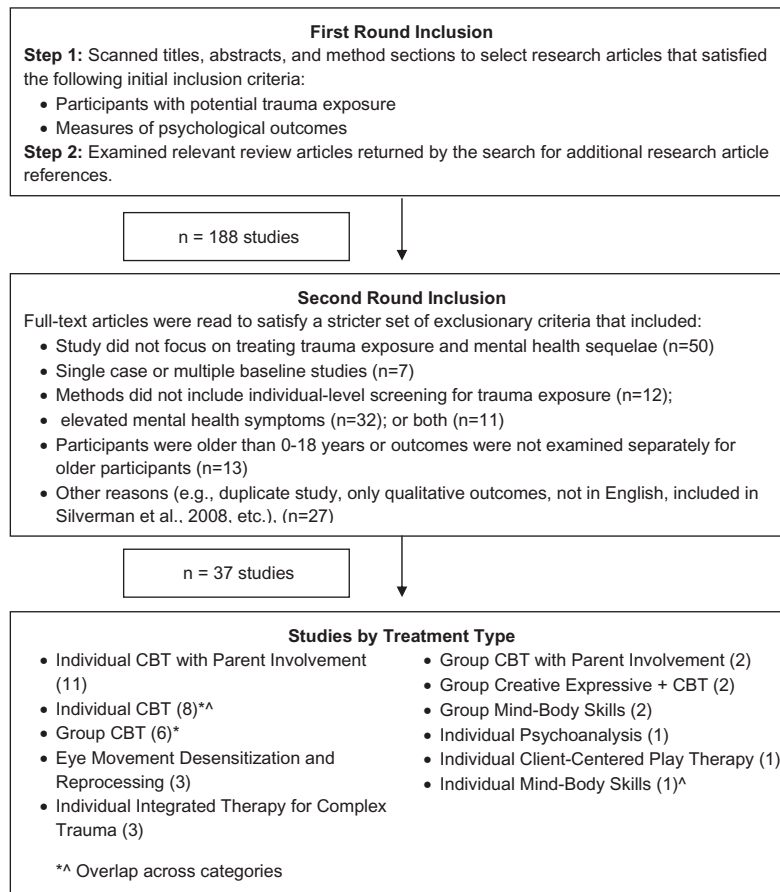


FIGURE 1 Search strategies.

treatment family—at the time of the Silverman et al. (2008) review and in this update—has been the methodological rigor and sample size of the studies (although, see Macdonald et al., 2012, for concerns about bias).

Beginning with five of the six TF-CBT studies, two were effectiveness trials (Cohen et al., 2011; Jensen et al., 2014), increasing confidence in the generalizability of findings from TF-CBT efficacy trials. One small RCT found almost no benefit from supplementing TF-CBT with sertraline (Cohen, Mannarino, Perel, & Staron, 2007). An open trial in Zambia demonstrated reduced PTSS when TF-CBT was delivered by lay counselors with little to no formal mental health training or experience (Murray et al., 2013). These studies advance the evidence base by demonstrating effectiveness of TF-CBT beyond the index traumatic event of sexual abuse. The Cohen et al. (2011) RCT focused on

youth exposed to intimate partner violence; Jensen et al. (2014) and Murray et al. (2013) focused on multiply traumatized youth. The sixth TF-CBT-focused RCT (Deblinger, Mannarino, Cohen, Runyon, & Steer, 2011) was a dismantling study; it is discussed subsequently along with another dismantling RCT.

Two studies extend findings in the Silverman et al. (2008) review by testing individual CBT with parent involvement at the ends of the age continuum, where clinicians may have concerns about applicability and effectiveness (e.g., very young children; adolescents who have other problems that can complicate treatment). Scheeringa et al. (2011) tested an adaptation of TF-CBT with 3- to 6-year-old children. Only two of the TF-CBT studies in the Silverman et al. (2008) review included children younger than 5 years (i.e., Cohen & Mannarino, 1996, 1997). Uniquely, in the

Scheeringa et al. (2011) study, parents observed all individual child sessions in which they did not participate (via television). One small RCT (Danielson et al., 2012) and an open trial (Danielson et al., 2010) tested Risk Reduction through Family Therapy (RRFT) a treatment approach that integrates TF-CBT, Multisystemic Therapy principles, and other evidence-based interventions to address comorbid PTSD and substance use problems in addition to risky sexual behavior. In this small RCT, participants who received RRFT had lower levels of substance use, but there were no differences in sexual behavior.

Two RCTs conducted since the Silverman et al. (2008) review inform an important question—whether “explicit” exposure, either through imaginal (via the client recounting their traumatic experience/s; Deblinger et al., 2011) or both imaginal and in vivo (exposure to innocuous trauma triggers) (Nixon, Sterk, & Pearce, 2012), is required. We use the term “explicit exposure” because in both studies, even in the conditions without explicit imaginal (Deblinger et al., 2011; defined as “trauma narration”) and/or in vivo (Nixon et al., 2012) exposure, the authors acknowledge that participants still received some trauma exposure through other elements (e.g., psychoeducation about traumatic events, cognitive processing of trauma-related thoughts). Therefore, the dismantling studies were testing inclusion of “explicit” or overt exposure elements in which sessions focused specifically on talking about traumatic experiences and/or facing up to trauma triggers either in session or between sessions. Both dismantling studies found that the conditions were equally effective for PTSS at the end of treatment but that conditions with exposure were more effective for general anxiety (i.e., non-PTSS). In the Deblinger et al. (2011) study (which included 8- and 16-session versions; see Table 3), children who received explicit exposure also had lower levels of fear associated with thinking about or talking about their abuse. A follow-up study to Deblinger et al. (2011) documented maintained gains or improvement (i.e., child anxiety) for all conditions at 6 and 12 months, with differences between conditions no longer detectable (Mannarino, Cohen, Deblinger, Runyon, & Steer, 2012).

Additional advancements include evidence for brief versions (eight or fewer sessions) of individual CBT with parent involvement and expanded evidence with culturally diverse youth. Four studies (two of which were the Deblinger et al., 2011, and Nixon et al., 2012, dismantling studies) provide some evidence of effectiveness for brief treatment. Eight-session versions of TF-CBT were essentially equivalent to similar 16-session versions (Deblinger et al., 2011) or more effective than an eight-session non-CBT approach (Cohen et al., 2011). The third relatively small RCT ($N = 52$) found that a four-session version of CBT was equivalent to a four-session EMDR intervention (De Roos et al., 2011). Some advancements have been made

in testing individual CBT with parent involvement with culturally diverse children and adolescents, increasing confidence in effectiveness for diverse youth in the United States (i.e., African American youth; Danielson et al., 2010, 2012), high-income countries outside the US (i.e., Norway, the Netherlands; Jensen et al., 2014; De Roos et al., 2011; respectively), and in low-income countries (i.e., Zambia; Murray et al., 2013).

The weaknesses of the research on individual CBT with parental involvement is that non-TF-CBT approaches have received less research attention. To date, some of the alternate versions that are innovative (e.g., RRFT) have only been tested in small (Danielson et al., 2010; Danielson et al., 2012) or relatively small studies (e.g., Scheeringa et al., 2011). Few studies included follow-up data; those that did mostly included shorter follow-up windows (e.g., 3–6 months; see Mannarino et al., 2012, for an exception).

Individual CBT

Individual CBT is an increasingly common approach to treating symptoms of child trauma exposure. This treatment family includes child-focused CBT approaches similar to TF-CBT (e.g., multicomponent interventions that include psychoeducation, coping skills, imaginal and in vivo exposure, cognitive processing, etc.). It also includes approaches predominantly focused on imaginal and in vivo exposure, with some psychoeducation and more minimal coping skills training. Treatment duration is typically between 12 and 14 sessions, although some recent studies have tested brief versions (three to eight sessions).

At the time of the Silverman et al. (2008) review, only two studies tested TF-CBT versions of individual CBT (i.e., Deblinger, Lippmann, & Steer, 1996; King et al., 2000). Individual CBT was mostly equivalent to a condition with parent involvement and superior to treatment as usual (TAU), WLC, and a parent-only CBT condition; however, in Deblinger et al. (1996), the parent-involved conditions were superior for externalizing problems and depressive symptoms. Since the 2008 review, this treatment family has benefitted from substantial new research, with eight studies of individual CBT. These eight studies include six RCTs—four of which were small—and two open trials (Aderka, Appelbaum-Namdar, Shafran, & Gilboa-Schechtman, 2011; Van Der Oord, Lucassen, Van Emmerik, & Emmelkamp, 2010). Four of the six RCTs tested adapted versions of interventions originally developed for adults: Prolonged Exposure for Adolescents (PE-A; Foa, McLean, Capaldi, & Rosenfield, 2013; Gilboa-Schechtman et al., 2010) and a child version of Narrative Exposure Therapy (kidNET; Catani et al., 2009; Ruf et al., 2010); two tested other individual CBT approaches (Salloum & Overstreet, 2008; Shirk, DePrince, Crisostomo, & Labus, 2014).

TABLE 3
Descriptive Information for Studies Included in Review

| Author; Year | Sample (Trauma Type, N, Age, Sex, Ethnicity) | Treatment(s) | Trial Type | Setting | Outcome Measures | Intervention Effects | Follow-Up |
|------------------------------|--|---|------------|---|--|--|---|
| Aderka et al., 2011 | Multiple; N = 63; PE; Age: 8–17; 59% female; E: NR | 12–15 sessions in 3 modules | Open Trial | Israel; Large public clinic; Clinical psychologists | K-SADS; CPSS; BDI or CDI (based on age) | ITT: CPSS ($\eta_p^2 = .79$) & “BDI” (merged BDI & CDI scores; $\eta_p^2 = .51$) scores reduced; Participants with “sudden gains” greater CPSS & BDI reduction | 3 & 12 mo; Sudden gains during treatment predicted better outcomes (CPSS & BDI) |
| Ahmad et al., 2007 | Multiple; N = 33; Age: 6–16; 61% female; E: 58% Swedish, 42% O | EMDR (8 weekly sessions) vs. WLC | RCT | Sweden; Child trauma OP clinic; Provider information NR | PTSS-C | Greater reduction for EMDR on total PTSS-C ($\eta_p^2 = .08$), PTSD-related scale ($\eta_p^2 = .20$), re-experiencing ($\eta_p^2 = .63$), & avoidance subscale ($\eta_p^2 = .11$); Greater reduction for WLC on PTSD non-related scale ($\eta_p^2 = .53$) | None reported |
| Catani et al., 2009 | Multiple; N = 31; Age: 8–14; 45% female; E: NR | KidNET vs. MED- RELAX; 6 sessions in 2 weeks | RCT | Sri Lanka; Provisional refugee camps; Teachers | UPID; # fixings & physical problems | Reduced UPID for both groups (KidNET Cohen's $d = 1.76$, MED- RELAX $d = 1.83$); 81% of KidNET & 71% of MED-RELAX were free from PTSD diagnosis; Improved fixing & slight improvement in physical problems in both groups | 6 mo; Maintained UPID, PTSD diagnosis, & fixing |
| Cohen et al., 2011 | CPA/family violence; N = 124; Age: 7–14; 51% female; E: 57% C, 33% AA, 11% Biracial | TF-CBT vs. child- centered therapy; 8 sessions | RCT | WCS; MSWs | K-SADS-PL; UCLA PTSD- RI; SCARED; CDI; CBCL; KBIT | ITT: Reduced K-SADS-PL total score, UCLA PTSD-RI score, reduced SCARED score, K-SADS-PL hyperarousal score & K-SADS-PL avoidance score in TF-CBT; No significant changes in K-SADS-PL- R; Additional completer analyses yielded the same results, except for K-SADS-PL avoidance | None |
| Cohen et al., 2007 | CSA; N = 22; Age: 10–17; 100% female; E: 77% C, 23% AA | TF-CBT + sertraline vs. TF-CBT + placebo; 12 sessions | RCT | Setting NR; MSWs | K-SADS PTSD; CGAS; CPSS; MFQ; SCARED; CBCL | COMPLETER: Reduced K-SADS-PL- PTSD for both groups; Reduced MFQ, SCARED, CPSS, CBCL total, & BDI for both groups; Sertraline: Reduced CGAS | None |
| Danielson et al., 2010 | CSA; N = 10; Age: 13–17; 100% female; E: 40% AA, 50% C, 10% His | RRFT; 7 components, duration dependent on syxs | Open Trial | University-based trauma OP clinic; Clinical psychologist, MA- level interns | TLFB; UCLA PTSD-RI; CDI; Ecological Fixing Measure | COMPLETER: Reduced UCLA PTSD- RI (adolescent & parent-reported); Reduced TLFB & CDI | 6 mo; Reduced UCLA PTSD RI, CDI, TLFB |

| | | | | | | | |
|-------------------------------|---|---|------------|--|---|---|--|
| <p>Danielson et al., 2012</p> | <p>CSA; <i>N</i> = 30; Age: 13-17; 88% female; E: 38% C, 46% AA, 4% Native Amer, 8% Biracial, 4% His</p> | <p>RRFT (7 components, varying duration) vs. TAU (weekly individual or family sessions)</p> | <p>RCT</p> | <p>Trauma OP clinic & outreach program; Clinical psychology interns</p> | <p>UCLA PTSD-A; UCLA PTSD-P; CDI; BASC-2; TLFB; Risky SB (# partners, new STDs)</p> | <p>Reduced UCLA PTSD-RI scores (adolescent report) in both groups; Greater reduction in parent-reported UCLA PTSD-RI for RRFT; Greater reductions in CDI & BASC-int for RRFT than TAU; Same pattern for substance use</p> | <p>6 mo; COMPLETER: Reduction in UCLA PTSD-P, SCDI, BASC-int scales, & TLFB scores for RRFT; Reduction in UCLA PTSD-A for both groups; Reductions in BASC-ext & new partners outcome for both groups</p> |
| <p>Deblinger et al., 2011</p> | <p>CSA; <i>N</i> = 210; Age: 4-11; 61% female; E: 65% C, 14% AA, 7% His, 14% O</p> | <p>TF-CBT w/ TN vs. TF-CBT w/o TN; Each had an 8 & a 16 session arm</p> | <p>RCT</p> | <p>Setting NR; Therapists (graduate degrees in psych, clinical SW, or related field)</p> | <p>K-SADS-PL; CBCL; CSBI; CDI; MASC</p> | <p>Participants with > 3 sessions: (ITT analysis did not reveal any differences & were NR); Reduced PTSD symptoms for all groups; Greater reduction in re-experiencing & avoidance (<i>d</i> = 0.44) for 16 session arms; Greater MASC reductions in TN (particularly 8 session TN) (<i>d</i> = 0.55); Greater reduction in CBCL-ext in non-TN arms (<i>d</i> = 0.45)</p> | <p>6 & 12 mo; Results maintained, no differences between four conditions, additional improvement at 12 mo FU on adjusted mean anxiety scores compared to post (Hedges's <i>g</i> = .61) (from Mammario et al., 2012)</p> |
| <p>De Roos et al., 2011</p> | <p>Factory Explosion; <i>N</i> = 52; Age: 4-18; 44% female; E: 47% ethnic minority groups (32% Turkish)</p> | <p>CBT vs. EMDR; Up to 4 individual sessions; Up to 4 parent sessions</p> | <p>RCT</p> | <p>Netherlands; Disaster care community MH clinic; Therapists (doctoral- & MA-level)</p> | <p>UCLA PTSD-RI; CROPS; PROPS; BDS; MASC; CBCL</p> | <p>ITT: Reduced scores for both EMDR & CBT on PROPS (EMDR <i>d</i> = 1.08; CBT <i>d</i> = 1.40), CROPS (<i>d</i> = 1.02; <i>d</i> = 1.16), UCLA PTSD-RI Parent (<i>d</i> = 1.00; <i>d</i> = 1.38) and Child (<i>d</i> = 1.23; <i>d</i> = 1.06), BDRS (<i>d</i> = .92; <i>d</i> = 1.09), MASC (<i>d</i> = 1.12; <i>d</i> = 0.62); No ES reported for CBCL.</p> | <p>3 mo; Results maintained in both groups [CBCL ES reported for 3 mo FU; EMDR CBCL (<i>d</i> = .88), CBT CBCL (<i>d</i> = .87)]</p> |
| <p>Farkas et al., 2010</p> | <p>Multiple; <i>N</i> = 40; Age: 13-17; 63% female; E: 93% Canadian, 3% Italian, 3% Haitian, 3% Indian</p> | <p>MASTR/EMDR (12 sessions; 120 min.) vs. TAU</p> | <p>RCT</p> | <p>Canada; Setting NR; Licensed MA-level therapists</p> | <p>DISC; TSCC; CBCL</p> | <p>Greater reduction in scores for MASTR/EMDR on DISC subscales [PTSD ($\eta_p^2 = .14$); ODD ($\eta_p^2 = .12$); TSCC subscales [Stress ($\eta_p^2 = .22$); Anger ($\eta_p^2 = .12$); Depression ($\eta_p^2 = .28$); Dissociation ($\eta_p^2 = .17$); Anxiety ($\eta_p^2 = .17$); CBCL-ext ($\eta_p^2 = .21$)]</p> | <p>3 mo; Gains maintained; Only TSCC-Dissociations subscale changed ($\eta_p^2 = .17$)</p> |
| <p>Foa et al., 2013</p> | <p>CSA; <i>N</i> = 61; Age: <i>M</i> = 15.3; 100% female; E: 56% AA, 18% C, 16% His, 3% Biracial, 7% O/NR</p> | <p>PE-A vs. supportive counseling; 14 weekly sessions</p> | <p>RCT</p> | <p>Rape crisis community MH clinic; MA-level therapists</p> | <p>CPSS-I; K-SADS PTSD module; CPSS-SR; CDI; CGAS</p> | <p>Reduced CPSS scores in both groups (PE-A: <i>d</i> = 2.72; Supportive counseling: <i>d</i> = 1.71); Greater reductions in CPSS (<i>d</i> = 1.01); Rate of PTSD diagnosis via K-SADS, CDI & improved CGAS for PE-A</p> | <p>6 & 12 mo; Improvements maintained; Evaluated treatment response & PE participants were more likely to be "good responders"</p> |

(Continued)

TABLE 3
(Continued)

| Author, Year | Sample (Trauma Type, N, Age, Sex, Ethnicity) | Treatment(s) | Trial Type | Setting | Outcome Measures | Intervention Effects | Follow-Up |
|-----------------------------|---|--|--|---|---|---|---|
| Ford et al., 2012 | Multiple; N = 59; Age: 13-17; 100% female; E: 16% AA, 59% L/Mixed, 25% C | TARGET vs. ETAU; 12 sessions | RCT | Schools, residential centers; Therapists (doctoral- & MA- level) | CAPS-CA; GENMR; TSSC | ITT: Reduced CAPS for both groups; CAPS reduced 62% for TARGET (<i>d</i> = 1.26) & 35% for ETAU (<i>d</i> = 1.35); Reduced TSSC-Anxiety for TARGET (<i>d</i> = 0.61), TSSC- Depression for both groups (<i>d</i> = 0.65), & TSSC-Anger for ETAU (<i>d</i> = 0.46) | None |
| Gilboa- et al., 2010 | Schechtman et al., 2010 | Multiple; N = 38; Age: 12-18; 63% female; E: NR | PE-A (12- 15 sessions) vs. TLDP-A (15-18 sessions) | RCT | Israel; Setting NR; MA-level therapists | K-SADS-PL; CPSS; BDI; CGAS | Reduced CPSS for PE-A (PE-A: <i>d</i> = 1.71; TLDP-A: <i>d</i> = 0.87); Reduced BDI scores in PE-A (PE-A: <i>d</i> = 1.06; TLDP-A: <i>d</i> = 0.73); Greater increase in CGAS scores for PE-A (PE-A: <i>d</i> = 3.13; TLDP-A: <i>d</i> = 1.78) |
| 6 & 17 mo; | Maintained | | | | | | |
| Goodkind et al., 2010 | Multiple; N = 23; Age: 12-15; 70% female; E: 91% AI, 9% Biracial | CBITS; 10 weekly group sessions | Open Trial | School; SBHC therapists & school or tribal MH professional (doctoral- & MA- level) | S-CPSS; CDI:S; MASC-10 | Reduced S-CPSS; Reduced MASC-10; CDI:S not sig. (.06) | 3 & 6 mo; 3 mo: Maintained S-CPSS, MASC-10; 6 mo: S-CPSS increased to slightly above pre-treatment levels |
| Gordon et al., 2008 | Terrorism/war; N = 82; Age: 14-18; 76% female; E: 100% E European | Mind-body skills group (2 sessions/wk for 6 wks) vs. WLC | RCT | Kosovo; School; Teachers | HTQ | COMPLETER: Reduced HTQ in mind- body skills ($\eta_p^2 = .28$) | 3 mo; Maintained (but not improved) |
| Jaycox et al., 2009 | Multiple; N = 76; Age: 6th & 7th grade, <i>M</i> = 11.5 (<i>SD</i> = .7); 51% female; E: 96% His, 4% NR | SSET (10 weekly group sessions) vs. WLC | RCT | School; Teachers, school counselor | CPSS, CDI, SDQ | Decreased CPSS for SSET, ES = .23 not sig (<i>p</i> = .058); More pronounced PTS decreases for high symptomatic subgroup; .32 ES on CDI, .10 ES on SDQ-P; .28 ES on SDQ-T | 3 mo; Gains appear maintained for SSET (no significance or ES testing); WLC received SSET during FU period |

| | | | | | | | |
|---|---|--|---|---|---|---|--|
| Jensen et al., 2014 | Multiple; <i>N</i> = 156; Age: 10–18; 79.5% female; E: Reported by country of origin (82% Norwegian; 11% Asian; 7% O) | TF-CBT (12–15 sessions) vs. TAU | RCT | Norway; Child trauma community MH OP clinic; Psychologists, psychiatrists, educational therapists, social workers | CPSS; CAPS-CA; MFQ; SCARED; SDQ | ITT: Greater reduction in CPSS for TF-CBT ($d = 0.51$); Reduced MFQ ($d = 0.54$), SDQ ($d = 0.45$), and generalized anxiety disorder sub-scale of SCARED for TF-CBT; No reduction in CAPS-CA or overall SCARED | None |
| Kagan et al., 2014 | Multiple; <i>N</i> = 119; Age: 6–18; 50% female; E: 34% AA, 45% C, 15% Mixed, 6% NR | RLH (# sessions varied) vs. trauma-informed TAU | Quasi- | experimental | Community MH clinic with home-based, OP & residential services; MSWs, psychologists, BA-level staff, SW interns | UCLA PTSD-RI; CDS (THP); CBCL; TSSC; RSCA | Reduced scores for RLH on UCLA PTSD-RI, CBCL, & TSSC anger subscale |
| 9 mo; Decreases in UCLA PTSD-RI, CBCL, & TSSC PTSD subscale | | | | | | | |
| Lanktree et al., 2012 | Multiple; <i>N</i> = 151; Age: 8–17; 35% female; E: 48% His, 25% AA, 14% C, 13% Asian/O | ITCT; Average length of tx 3–8 mo | Naturalistic; Data from a record review | University-affiliated child trauma MH center; Provider information NR | TSSC; CBCL; TSCYC | Reduced scores on all TSSC subscales [Anxiety ($\eta_p^2 = .23$); Depression ($\eta_p^2 = .23$); Anger ($\eta_p^2 = .15$); PTS ($\eta_p^2 = .29$); Dissociation ($\eta_p^2 = .16$); Sexual Concerns ($\eta_p^2 = .12$)] | None |
| Layne et al., 2008 | Terrorism/war; <i>N</i> = 127; Age: 13–19; 65% female; E: 100% Bosnian, ethnic Muslims | Group-based TGCT (17–20 sessions) vs. universal (classroom-based psychoeducation & skills group) | RCT | Bosnia; School; Local school & community professionals | UCLA PTSD-RI; DRS; UCLA GI | UCLA PTSD-RI score decreased for both groups; Significant OR for reliable improvement (RCI) for TGCT only; DRS score decreased for TGCT For bereaved subsample, UCLA GI decreased only for TGCT; Significant OR for reliable improvement (RCI) only in TGCT | 4 mo (only 50% sample) Posttreatment to 4 mo; Reduced/maintained UCLA PTSD-RI, decreased DRS for both; Pretreatment to 4 mo: Reduced UCLA PTSD-RI & DRS for both; Significant OR for greater reliable improvement (RCI) for TGCT |

(Continued)

TABLE 3
(Continued)

| Author; Year | Sample (Trauma Type, N, Age, Sex, Ethnicity) | Treatment(s) | Trial Type | Setting | Outcome Measures | Intervention Effects | Follow-Up |
|------------------------|--|--|------------|---|--|---|--|
| Misrrell et al., 2014 | CSA; N = 45; Age: med age = 10 (SD = 3.44); 74% female; E: 86% AA, 6% L, 4% Biracial, 4% C | GB-CBT-IM; 4–17 sessions depending on needs | Open Trial | Hospital-based child trauma OP clinic; Doctoral-level clinicians, predoctoral graduate students | CBCL; YSR; TSCYC; TSCC; CSBI | COMPLETER: Reduced scores on TSCYC PTS (young child version for age 3–12) ($d = 0.39$); Reduced CBCL-int ($d = 0.53$) & YSR-int ($d = 0.67$); Reduced CBCL-ext ($d = 0.49$); Reduced sexual behaviors on CSBI | None |
| Morsette et al., 2012 | Multiple; N = 43; Age: 10–15; 56% female; E: 84% AI, 14% C, 2% His, 5% O | CBITS; 10 group sessions | Open Trial | Schools in AI reservation communities; School counselors | S-CPSS; CDI | CPSS score decreased; CDI score decreased | None |
| Murray et al., 2013 | Multiple; N = 58; Age: 5–18; 50% female; E: 100% African | TF-CBT; 8–23 weekly sessions | Open Trial | Zambia; Setting NR; Local lay counselors | UCLA PTSD-RI | COMPLETER: Reduced UCLA PTSD- RI scores | None |
| Nilsson & Wadsby, 2010 | CPA/CSA; N = 15; Age: 13–18; 87% female; E: NR | Symbol/drama/ guided affective imagery; 10–35 sessions | Open Trial | Sweden; Child trauma treatment clinics; Provider information NR | LITE-S; TSCC; DIS-Q-Sweden | Sig decreases in DIS-Q & all subscales of TSCC except sexual concerns | None |
| Nixon et al., 2012 | Multiple; N = 34; Age: 7–17; 36% female; E: 85% C, 6% European, 3% ME, 3% Aboriginal, 3% O | CBT vs. CT (no exp); 9 weekly individual sessions | RCT | Australia; Setting NR; MA-level trainee clinical psychologists | CAPS-CA; CPSS; CDI; CPTCI; RCMAS; CBCL | Reduced CPSS for both groups; 65% & 56% of CBT & CT no longer met PTSD criteria at post-tx; No difference between CBT & CT; Reduced RCMAS anxiety only for CBT; Good end-state fixing among 42% of CBT & 36% of CT | 6 mo; Maintained |
| Ruf et al., 2010 | Multiple; N = 26; Age: 7–16; 46% female; E: 31% Kurdish, 27% Balkan, 19% Syrian, 11% Chechen, 8% Russian, 4% Georgian | KidNET; 8 sessions/wk (based on individual needs) vs. WLC | RCT | Germany; University- based OP clinic for refugees; Clinical psychologists (doctoral-level, doctoral-level students) | UCLA PTSD-RI RI Scores | COMPLETER: Reduced UCLA PTSD- RI Scores | 6 & 12 mo; 6 mo: ITT; KidNET reduced UCLA PTSD-RI scores; 60% decrease in PTSD syxs in KidNET (ES = 1.9); Both groups improved on intrusion syxs; 12 mo: KidNET improvements sustained for PTSD syx (ES = 1.8) |

| | | | | | | | |
|----------------------------|--|---|------------|--|---|--|---|
| Runyon et al., 2009 | CPA/family violence; <i>N</i> = 21 (includes siblings); Age: 4–14; 62% female; E: 52% AA, 19% His, 19% C, 10% Biracial | CPC-CBT; 16 2-hr group sessions over 16–20 wks | Open Trial | University-based child trauma treatment program; Provider information NR | BDI-II; CDI; K-SADS-P/L PTSD | Reduced K-SADS-P/L-PTSD total score (<i>d</i> = 1.01), CBCL int (<i>d</i> = 1.08), & CBCL ext (<i>d</i> = 1.46); No change in CDI scores (<i>d</i> = 1.25) | None |
| Runyon et al., 2010 | CPA/family violence; <i>N</i> = 60 (includes siblings); Age: 7–13; 47% female; E: 42% AA, 58% NR | Parent-only CBT vs. CPC-CBT; 16 2-hr group sessions over 16–20 wks | RCT | University-based child trauma treatment clinic; Doctoral-level psychologists, MSWs | K-SADS-PL (PTSD section); CBCL | Greater improvements in CPC-CBT on K-SADS-PL PTSD total score (<i>d</i> = 0.61); CPC-CBT & P-CBT: Reduced K-SADS-PL PTSD total score (CPC: <i>d</i> = 1.69; P-CBT: <i>d</i> = 1.02) & CBCL-int (CPC: <i>d</i> = 0.32; P-CBT: <i>d</i> = 0.41). Only P-CBT had reduced CBCL ext scores: (P-CBT: <i>d</i> = 0.59; CPC: <i>d</i> = 0.30) | 3 mo; Maintained |
| Salloum & Overstreet, 2008 | Natural disaster/death; <i>N</i> = 56; Age: 7–12; 38% female; E: 89% AA, 4% C, 2% His, 4% Biracial | Group-based Project LAST w/ 1 individual session vs. individual Project LAST; 10 sessions, 73% completed 1 parent session | RCT | School; MSWs | UCLA PTSD-RI; MFQ-C; UCLA GI-R; 1-item global distress question | ITT: No differences between groups; COMPLETER: Reduced UCLA PTSD-RI for both groups; % in clinical range on UCLA PTSD-RI decreased (53% to 13%); Reduced MFQ-C & global distress scores for both groups; % above clinical cutoff decreased (40% to 20%); For bereaved subsample, reduced UCLA GI-R score | 20 day; No differences between groups; Maintained UCLA PTSD-RI & improved MFQ-C scores |
| Salloum & Overstreet, 2012 | Multiple; <i>N</i> = 70; Age: 6–12; 44% female; E: 100% AA | GTI-CN vs. GTI-C; 10 group sessions, 1 individual session, 1 parent session | RCT | School; MSWs, SW interns, school psych doctoral student | UCLA PTSD-RI; MFQ-C; EGI (only for bereaved children); CBCL; 1-item GD question | COMPLETER: No group differences; Reduced UCLA PTSD-RI, MFQ, EGI, & GD scores for both groups ITT: Similar pattern of findings (although NR) | 3 & 12 mo; Maintained UCLA PTSD-RI, MFQ, EGI, GD, & CBCL-int scores; Reduced % in clinical range (>38 on UCLA PTSD-RI) for both groups; 3 mo no effect CBCL-ext; 12 mo trend GTI-CN decreased CBCL-ext (<i>p</i> = .044) |
| Scheeringa et al., 2011 | Multiple; <i>N</i> = 64; Age: 3–6; 34% female; E: 60% AA, 35% C, 5% O | TF-CBT (12 individual sessions) vs. WLC | RCT | Setting NR; Licensed SWs | PAPA | Reduced PTSD syxs; No significant reductions in comorbid dxs relative to WLC; Additional analyses include WLC who received TF-CBT post-RCT | None for RCT; 6 mo FU reported for additional analyses including WLC participants |

(Continued)

TABLE 3
(Continued)

| Author, Year | Sample (Trauma Type, N, Age, Sex, Ethnicity) | Treatment(s) | Trial Type | Setting | Outcome Measures | Intervention Effects | Follow-Up |
|------------------------------------|--|--|-------------------------------------|---|---|---|--|
| Schottelkorb et al., 2012 | Terrorism/war; N = 31; Age: 6–13; 45% female; E: 68% African, 16% ME, 10% Asian, 6% European | CCPT (2 sessions/wk for 12 wks, + 2–5 parent sessions) vs. TF-CBT (2 sessions/wk, [M = 17 sessions], + 2–4 parent sessions) | RCT | School; Students in MA-level counselor education program | UCLA PTSD-RI; PROPS | No difference between groups on either measure when full sample analyzed; Subsamples for both groups who met full PTSD criteria: Reduced UCLA PTSD-RI scores [main effect for time observed for subsamples across both conditions ($\eta^2 = .43$)] | None |
| Shirk et al., 2014 | Multiple; N = 43; Age: 13–17; 84% female; E: 49% non- His C, 33% His, 38% AA | m-CBT (12 weekly individual sessions) vs. UC (weekly sessions) | RCT (stratified by gender) | Community MH OP clinics; Doctoral- level psychologists, MA-level therapist | BDI-II; CBCL | No benefit on depression above UC condition | None |
| Staples et al., 2011 | Terrorism/war; N = 129; Age: 8–18; 37% female; E: 100% | Mind-body skills group; 2 sessions/wk for 5 wks | Open Trial | Gaza/Palestine; NGO centers; Health & MH professionals & educators | CPSS; CDI | Reduced CPSS (overall & clusters); Reduced scores on CDI | 3 mo; Increased scores on CPSS & CDI |
| Tol et al., 2008 | Palestinian Terrorism/war; N = 403; Age: 7–15; 49% female; E: 100% | CBI (15 group sessions, 5 weeks) vs. WLC | RCT | Indonesia; School; Paraprofessionals (at least HS education) | CPSS (+ 6 local items); DSRs; CAS-P; SCARED-5; Local fxing measure | ITT: Greater reductions in youth-report CPSS, DSRs, & fxing checklist for CBI condition | 6 mo ITT; CPSS maintained for CBI; No effect of treatment on DSRs, SCARED-5, CAS-P, or fxing |
| Tol et al., 2014 | Indonesian Terrorism/war; N = 329; Age: 8–17; 48% female; E: 100% | CBI (15 group sessions, 5 weeks) vs. WLC | RCT | Burundi; School; Paraprofessionals (at least HS education) | CPSS; DSRs; SCARED-5; Local fxing measure | COMPLETER: No differences between the groups on CPSS, DSRs, SCARED, or fxing scores | 20 week; No main effects of intervention on any outcome measures |
| Van Der Oord et al., 2010 | Burundi Multiple; N = 23; Age: 8–18; 74% female; E: 70% C, 9% Turkish, 13% N African, 9% S Amer | CBWT; 3–11 individual & parent-child sessions | Open Trial | Netherlands; Community OP MH clinic; Psychologists, SWs | CBCL; CRTI; CDI | COMPLETER: Reduced CRTI (Cohen's $d = 1.71$), Reduced CBCL (CBCL-int $d = 1.22$; CBCL-ext $d = .63$ ns; CBCL total $d = 1.18$), & CDI scores ($d = 0.75$). ITT ANALYSES: NR, results were "similar" | 6 mo; All outcomes maintained; ITT: CBCL-int scale significant reduction from post |

Note. AA = African American; AI = American Indian; API = Asian Pacific Islander; Asian/O = Asian/other; BA = Bachelor of Arts; BASC-2 = Behavioral Assessment System for Children; BDI = Beck Depression Inventory; BDI-II = Beck Depression Inventory = Second Edition; BDRS = Birmleson Depression Self-Rating Scale; C = Caucasian; Caps-CA = Clinician-Administered PTSD Scale for Children

and Adolescents; CAS-P = Children's Aggression Scale for Parents; CBCL = Child Behavior Checklist; CBITS = Classroom-Based Intervention; CBITS = Cognitive Behavioral Intervention for Trauma in Schools; CBT = Cognitive Behavioral Therapy; CBWT = Cognitive Behavioral Writing Therapy; CCPT = Child-Centered Play Therapy; CCT = Cue-Centered Treatment; CDI = Children's Depression Inventory; CDI:S = 10-item Children's Depression Inventory; CDS (THP) = Core data set (derived from the Trauma History Profile component of the UCLA PTSD); CGAS = Children's Global Assessment Scale; CPA = Childhood Physical Abuse; CPC-CBT = Combined Parent-Child Cognitive Behavioral Therapy; CPSS = Child PTSD Symptom Scale; CPSS-1 = Child PTSD Symptom Scale-Interview; CPSS-SR = Child PTSD Symptom Scale-Self-Report; CPTCI = Childhood Post-Traumatic Cognitions Inventory; CROPS = Child Report of PTS Symptoms; CRTI = Children's Responses to Trauma Inventory; CSA = Childhood Sexual Assault; CSBI = Child Sexual Behavior Index; CT = Cognitive Therapy; DISC = Diagnostic Interview Schedule for Children; DIS-Q = Sweden = Dissociation Questionnaire-Sweden; DSRs = Depression Self-Rating Scale; dx = diagnosis; E = ethnicity; E European = Eastern European; EGI = Extended Grief Inventory; EMDR = Eye Movement Desensitization and Reprocessing; ES = effect size; ETAU = Enhanced Treatment as Usual; ETO-A = Expectancy of Therapeutic Outcome for Adolescents; exp = exposure; ext = externalizing; FES = Family Environment Scale; FU = follow-up; fxing = functioning; GB-CBT-IM = Game-based CBT Individual Model; GD = Global Distress; GENMR = Generalized Expectancies for Negative Mood Regulation; GTI-C = Grief and Trauma Intervention with Coping Skills; GTI-CN = Grief and Trauma Intervention with Coping Skills and Trauma/loss Narrative; His/L = Hispanic/Latino; hr = hour; HS = High School; HTQ = Harvard Trauma Questionnaire; int = internalizing; ITCT = Integrative Treatment of Complex Trauma; ITT = intent-to-treat; KBIT = Kaufman Brief Intelligence Test; KidNET = Narrative Exposure Therapy for the Treatment of Traumatized Children and Adolescents; K-SADS = Kiddie-Schedule for Affective Disorders and Schizophrenia; K-SADS PTSD = KSADS PTSD Interview; K-SADS-PL = K-SADS-Present and Lifetime Version; L/Mixed = Latino/Mixed; LITE-S = Life Incidence of Traumatic Events; MA = Masters; MASC = Multidimensional Anxiety Scale for Children; MASC-10 = Short Multidimensional Anxiety Scale for Children; MASTR = Motivation-Adaptive Skills-Trauma Resolution; m-CBT = modified CBT; ME = Middle Eastern; MED-RELAX = Meditation and Relaxation Protocol for Tsunami Survivors Developed in Sri Lanka; MFQ = Mood and Feelings Questionnaire-Child; MFT = Marriage and Family Therapist; MH = mental health; MINI-KID = Mini International Neuropsychiatric Interview for Children and Adolescents; mo = month; MST-CAN = Multi-Systemic Therapy for Child Abuse & Neglect; MSW = Masters in Social Work; N African = North African; NGOs = nongovernment organizations; non-His C = non-Hispanic Caucasian; nonsig = non-significant; NR = Not reported; O = other; ODD = Oppositional Defiant Disorder; OP = outpatient; PAPA = Preschool Age Psychiatric Assessment; PE = Prolonged Exposure Therapy; PE-A = Prolonged Exposure Therapy for Adolescents with PTSD; PhD = Doctor of Philosophy; Project LAST = Project Loss & Survival Team; PROPS = Parent Report of Posttraumatic Symptoms; psych = psychology; PTSD = Post-Traumatic Stress Disorder; PTSD-RI = PTSD Reaction Index; PTSS-C Scale = Posttraumatic Stress Symptom Scale for Children; RCI = Reliable Change Index; RCMAS = Revised Children's Manifest Anxiety Scale; RCT = randomized controlled trial; RLH = Real Life Heroes; RRFT = Risk Reduction through Family Therapy; RSCA = Resiliency Scale for Children and Adolescents; S Amer = South American; SB = sexual behavior; SBHC = school-based health center; SCARED = Self-Report for Anxiety Related Disorders; SCARED-5 = Self-Report for Anxiety Related Disorders 5-item version; S-CPSS = 7-item Child PTSD Symptom Scale; SDQ = Strengths and Difficulties Questionnaire; SDQ-T = Strengths and Difficulties Questionnaire Teacher Version; sig = significant; SSET = Support for Students Exposed to Trauma; SSRS = Social Skills Rating Scale; STEP-TEEN = Systematic Training for Effective Parenting of Teens; SW = Social Workers; syxs = symptoms; TARGET = Trauma Affect Regulation: Guide for Education and Therapy; TAU = Treatment as Usual; TESI-C/SR = Traumatic Events Screening Inventory-Child/Self-Report; TF-CBT = Trauma Focused Cognitive Behavioral Therapy; TGCT = Trauma and Grief Component Therapy; TLDP-A = Time-Limited Dynamic Psychotherapy Adapted for Adolescents with Single-Trauma; TLFB = Time Line Follow Back Interview; TN = Trauma narrative; TSCC = Trauma Symptom Checklist for Children; TSCYC = Trauma Symptom Checklist for Young Children; tx = treatment; UC = Usual Care; UCLA GI = UCLA Grief Index; UCLA GI-R = UCLA Grief Index Revised; UCLA PTSD-A = UCLA PTSD Index-Adolescent Report; UCLA PTSD-C = UCLA PTSD Index-Child Report; UCLA PTSD-P = UCLA PTSD Index-Parent Report; UCLA PTSD-RI = UCLA PTSD Reaction Index; UPID = UCLA PTSD Index for DSM-IV; WCS = Women's Center and Shelter; wk/s = week/s; WLC = Waitlist control; YPS = Youth Protection Services; YSR = Youth Self-Report

TABLE 4
Evidence Base Update for Treatment of Child Trauma Exposure: Summary Table

| <i>Level 1: Well-Established</i> | <i>Level 2: Probably Efficacious</i> | <i>Level 3: Possibly Efficacious</i> | <i>Level 4: Experimental</i> | <i>Level 5: Questionable Efficacy</i> |
|--|---|--|---|---------------------------------------|
| Individual CBT with Parent Involvement | Group CBT with Parent Involvement | Individual Integrated Therapy for Complex Trauma | Individual Client-Centered Play Therapy | Group Creative Expressive + CBT |
| Individual CBT | Eye Movement Desensitization and Reprocessing | Group Mind–Body Skills | Individual Mind–Body Skills | |
| Group CBT | | | Individual Psychoanalysis | |

Note. CBT = cognitive behavioral therapy.

Collectively, these eight studies provide more evidence—although measured—for the clinical benefits of individual CBT. All studies included children age seven and older (none focused on very young children). Findings from three of the six RCTs demonstrated effectiveness for PTSS, PTSD diagnosis, depression, and functioning (see Table 3 for findings by study), with comparison conditions that were active treatments (Foa et al., 2013; Gilboa-Schechtman et al., 2010) or WLC (Ruf et al., 2010). The comparison group for the fourth RCT in this treatment family was group CBT (Salloum & Overstreet, 2008), with equivalent findings for individual and group CBT. In two of the six RCTs, both of which were small, CBT did not outperform the comparison conditions (Catani et al., 2009; Shirk et al., 2014). In Catani et al. (2009), a brief, six-session CBT and a meditation-relaxation intervention resulted in similar symptom reduction. Shirk et al. (2014) found no differences between CBT and usual care, but the inclusion criteria differed somewhat compared with most other studies in this review (i.e., primary diagnosis of depression, with trauma-related symptoms vs. PTSS), and both conditions had poor attendance.

Strengths of the research conducted since the Silverman et al. (2008) review include evidence of effectiveness for other individual CBT approaches beyond TF-CBT. For example, in one of the PE-A RCTs, the effect size for PTSS was double that of the comparison condition (e.g., Foa et al., 2013). These studies also contribute to the effectiveness of CBT with culturally and ethnically diverse youth, including African Americans in the United States (Salloum & Overstreet, 2008), Israeli (Aderka et al., 2011; Gilboa-Schechtman et al., 2010) and Sri Lankan youth (Catani et al., 2009), and refugee youth in Germany (Ruf et al., 2010). Another advance is the examination of effectiveness in usual care settings.

However, research on interventions in this treatment family, both from the 2008 review and the eight new studies, mostly involved small samples (see Deblinger et al., 1996, for an exception) and/or were open trials. Studies conducted in international settings—which provide the bulk of the evidence for effectiveness with diverse youth—were particularly plagued by small samples and/or

nonrandomized designs (e.g., Van Der Oord et al., 2010). Both international kidNET RCTs had fewer than 35 participants, and the Israeli PE-A RCT had only 38 participants (Gilboa-Schechtman et al., 2010). Only half of the studies examined effects over a longer term follow-up (i.e., at least 12 months). Those that did were able to demonstrate sustained gains (Aderka et al., 2011; Foa et al., 2013; Gilboa-Schechtman et al., 2010; Ruf et al., 2010).

Group CBT

One relatively common treatment approach for symptoms of child trauma exposure is providing CBT via group therapy, in which children and adolescents are the exclusive or primary participants (i.e., minimal parent involvement in two or fewer sessions). In group CBT, treatment is of relatively brief duration, generally around 10 sessions, with one approach (Layne et al., 2008) including up to 20 sessions. Groups typically include psychoeducation, coping skills (e.g., relaxation, cognitive coping), and cognitive restructuring. Some approaches include imaginal and/or in vivo exposure, problem solving, or a focus on social support. This treatment approach seems to be commonly tested in school settings, likely due to the greater feasibility of both group-based approaches and approaches that include only youth.

In Silverman et al. (2008), three RCTs of group CBT were included. Two focused on a version of what is now called Cognitive Behavioral Intervention for Children in Schools (CBITS; Kataoka et al., 2003), a treatment previously rated as *probably efficacious*. CBITS includes 10 group sessions and is an approach that includes in vivo and imaginal exposure, as well as some parent involvement (i.e., two psychoeducation-focused sessions). CBITS also includes up to three individual child sessions for imaginal exposure. Notably, CBITS has always been tested with ethnically and culturally diverse children and adolescents, bringing greater confidence for the effectiveness of this approach with diverse youth.

Since the last review, six additional studies that met our review criteria have been published. All were effectiveness studies in school-based settings, with services predominantly

delivered by providers located within the schools. Two studies tested CBITS and one tested a CBITS adaptation. The remaining three studies were RCTs that examined alternative group CBT approaches (i.e., not CBITS). Three of the four RCTs tested group CBT compared to WLC (Jaycox et al., 2009) or to an active, CBT comparison condition (Layne et al., 2008; Salloum & Overstreet, 2008). The fourth RCT tested effectiveness of group CBT with and without imaginal exposure and is discussed separately. Findings from the first three RCTs are mixed.

In the first study (Jaycox et al., 2009), CBT outperformed WLC for PTSS and depression, but the modified version of CBITS that was tested, Support for Students Exposed to Trauma (SSET), had small effect sizes compared to medium (depression) and large (PTSS) effect sizes in the CBITS trials. The authors attributed differences to removing “several of the more clinical elements” (p. 57), including eliminating individual imaginal exposure sessions and parent sessions. However, as the provider type was also different than in CBITS studies (i.e., SSET was designed to ease CBITS delivery by non-mental-health professionals in the schools; see Table 3), reasons for differences in effectiveness cannot be definitively determined. In analyses with a high symptom subgroup, effects for SSET were more pronounced for PTSS and depression. In the two studies that compared CBT to other active treatments, for PTSS and depression, group CBT either outperformed or was equivalent to a universal skills and coping intervention depending on the outcome and analyses (Layne et al., 2008; see Table 3) and was equivalent to an individual CBT approach (Salloum & Overstreet, 2008). For the subsample for whom grief was examined, CBT outperformed (Layne et al., 2008) the comparison or was equivalent (Salloum & Overstreet, 2008) to a similar but individually delivered treatment. Positive results at the end of the treatment from two small open trials support these findings (Goodkind, LaNoue, & Milford, 2010; Morsette, Van Den Pol, Schulberg, Swaney, & Stolle, 2012).

One of the most beneficial advancements in the research since Silverman et al. (2008) is additional evidence for treatment effectiveness without explicit, or overt, imaginal exposure (Salloum & Overstreet, 2012). In group treatment for trauma-related symptoms, imaginal exposure requires some individual sessions or group “pull outs” (Deblinger, Pollio, & Dorsey, 2016), as exposing children in a group to traumatic memories of other children is not clinically indicated. This can create challenges to the otherwise potentially high efficiency of group work. In the fourth RCT, Salloum and Overstreet (2012) tested group CBT with and without overt imaginal exposure, with similar results across the two conditions.

The six studies also contribute to increased evidence of effectiveness with culturally and ethnically diverse youth. All of the studies focused on diverse populations—African American (Salloum & Overstreet, 2008, 2012) and Latino (Jaycox et al., 2009) youth in the United States and predominantly ethnic Muslims in Bosnia (Layne et al., 2008). The two open trials tested CBITS with American Indian children (Goodkind et al., 2010; Morsette et al., 2012), with descriptions

of fidelity and cultural adaptation (i.e., involving tribal elders to bring in culturally specific ceremonies and perspectives on trauma and healing). Goodkind et al. (2010) found that PTSS rebounded to pretreatment levels at the 6-month follow-up.

Compared to studies on individual CBT, samples in the four RCTs in this treatment family were larger, all having 50 or more participants. However, group CBT did not consistently outperform active comparison conditions, and attenuated outcomes for SSET raise questions about which aspects of the CBITS modifications—or other factors (e.g., delivery by non-mental-health professionals)—resulted in decreased effectiveness. Thus far, most treatment studies have focused on middle school and high school age children and adolescents. Only two studies in the review (Salloum & Overstreet, 2008, 2012) examined elementary school age children. There also remains a need to examine effectiveness over time. Only one study examined longer term follow-up (i.e., 12 months; Salloum & Overstreet, 2012).

Level 2: Probably Efficacious

Group CBT with Parent Involvement

In the last review by Silverman et al. (2008), two relatively small ($N = 44$; $N = 55$) group CBT with parent involvement studies were included (Deblinger, Stauffer, & Steer, 2001; Kolko, 1996, respectively). In this treatment approach, children and parents typically meet concurrently and separately, with some conjoint activities and sessions. Sessions are longer than in individual CBT (e.g., 2 hr compared to 1), and treatment may last longer (e.g., approximately 16 sessions). Treatment elements are similar to those included in individual CBT with parent involvement and group CBT. However, when the index trauma is physical abuse, treatment focuses as much on parent-level outcomes of parenting behavior and preventing physical abuse recidivism as on addressing mental health sequelae of trauma exposure. Therefore, treatment includes content specific to this goal (i.e., commitment to nonviolence, abuse clarification).

Since the Silverman et al. (2008) review, only two studies that met review criteria were identified—one RCT (Runyon, Deblinger, & Steer, 2010) and one open trial (Runyon, Deblinger, & Schroeder, 2009). Both were conducted by the same research group and test Combined Parent-Child Cognitive Behavioral Therapy (Runyon, Ryan, Kolar, & Deblinger, 2004), a TF-CBT-based approach designed to treat physical abuse. These two studies bolster findings from Silverman et al. (2008) by strengthening the evidence for group CBT with parent involvement when the parent was the perpetrator of physical abuse or was at risk of physical abuse (outcomes were not separated out by substantiation status). However, studies testing this treatment family have been relatively small and have included only a short follow-up (i.e., 3 months; Runyon et al., 2009).

Eye Movement Desensitization and Reprocessing

In the Silverman et al. (2008) review, two small EMDR RCTs were included (Chemtob, Nakashima, & Carlson, 2002; Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi, 2004). EMDR typically includes coping skills (guided imagery, relaxation); cognitive restructuring; imaginal exposure; and, uniquely, simultaneous bilateral sensory input (e.g., eye movement). Treatment typically lasts 8–12 sessions and is conducted in individual therapy. Since the last review, three additional small RCTs investigated the efficacy of EMDR. These studies provide additional evidence for the effectiveness of EMDR compared to WLC (Ahmad, Larsson, & Sundelin-Wahsten, 2007) and TAU (Farkas, Cyr, Lebeau, & Lemay, 2010) and similar effectiveness compared to CBT (De Roos et al., 2011). The strength of the evidence for EMDR from the studies included in Silverman et al. (2008) and in this review is limited by small studies (only one had a sample size larger than 50; $N = 52$). Of interest, two of the three studies included in this review (De Roos et al., 2011; Farkas et al., 2010) integrated CBT components into EMDR, making it challenging to interpret whether outcomes are due to EMDR-specific elements (i.e., sensory input only); CBT elements; or an overlapping, shared element between the two treatment families (i.e., imaginal exposure). Larger studies that more clearly test the added benefit of EMDR-specific elements (i.e., bilateral sensory input) are needed to advance the empirical basis for this treatment.

Level 3: Possibly Efficacious

There were no studies of Level 3, 4, or 5 treatment families included in the prior review.

Individual Integrated Therapy for Complex Trauma

Since the prior review, three studies—one RCT (Ford, Steinberg, Hawke, Levine, & Zhang, 2012), one quasi-experimental study (Kagan, Henry, Trinkle, & LaFrenier, 2014), and one naturalistic study (Lanktree et al., 2012)—have tested individual integrated therapy for complex trauma. The therapies in this family incorporate various theories, including attachment, developmental, family systems, and CBT within a “complex trauma” framework (see Cook et al., 2005, for more information). Complex trauma is defined by cumulative poly-victimization that is typically interpersonal in nature and involves direct harm, exploitation, or neglect/abandonment by caregivers (e.g., Courtois & Ford, 2009). Mental health sequelae of complex trauma are considered to involve greater severity of impairment with higher psychiatric comorbidity, including problems in relationships, self-regulation (e.g., impulse control), and self-endangerment. These interventions prioritize teaching emotion regulation and building positive interpersonal relationships. All were individually delivered, but there was variation in parent involvement and inclusion of exposure. Parent involvement was recommended but not always possible (Kagan et al., 2014; Lanktree et al., 2012) or was not part of the intervention (Ford

et al., 2012). Explicit exposure (imaginal and/or in vivo) was included in both Kagan et al. (2014) and Lanktree et al. (2012) but specifically was not included in Ford et al. (2012).

Findings from these studies are mixed. The only RCT (Ford et al., 2012) that tested Trauma Affect Regulation: Guide for Education and Therapy (TARGET) did not obtain a clear picture of benefit over an active treatment comparison condition. TARGET moderately outperformed the enhanced TAU (ETAU) condition for reexperiencing and total PTSS and was similarly effective to ETAU for some outcomes (e.g., depression, hypervigilance), whereas ETAU outperformed TARGET for others (anger, mood regulation expectancies). The quasi-experimental study of Real Life Heroes by Kagan et al. (2014) found reductions in varying outcomes assessed at either 6 or 9 months; however, the study had a number of weaknesses. The comparison condition was an inadequately defined TAU (and included only for some, not all, outcomes), treatment was of highly variable duration (1–9 months), and only about one third of youth participated in data collection at 6 months, with only about 10% participating at 9 months. The naturalistic trial (Lanktree et al., 2012) tested Integrative Treatment of Complex Trauma, a phase-based treatment that can be delivered in highly variable duration depending on client need. Youth who received Integrative Treatment of Complex Trauma demonstrated clinical improvement in PTSS, depression, anxiety, and other outcomes for youth over time. However, as a naturalistic study, it did not include a control group.

Group Mind–Body Skills

Two studies (one RCT, one open trial) examined mind–body skills groups that combine mindfulness, meditation, relaxation, guided imagery, and biofeedback. Both studies tested the intervention with war-affected youth. Together, these studies provide some evidence for the effectiveness of the intervention in reducing PTSS compared to WLC for adolescents in Kosovo (Gordon, Staples, Blyta, Bytyqi, & Wilson, 2008), with maintenance at a 3-month follow-up. Results from the RCT are somewhat supported by a large open trial conducted in Gaza (Staples, Atti, & Gordon, 2011; $N = 129$), although PTSS and depression rebounded at the 3-month follow-up.

Level 4: Experimental

Individual Client-Centered Play Therapy

In a small RCT with refugee and immigrant children, neither individual client-centered play therapy nor TF-CBT (the comparison condition) resulted in symptom improvement (Schottelkorb, Doumas, & Garcia, 2012), except in analyses with a clinically severe subsample. These findings are in contrast to studies supporting TF-CBT in earlier sections. However, in this study, the population of focus was different (i.e., refugee children), and there were alterations in TF-CBT in both delivery (i.e., 30-min sessions) and parent involvement (i.e., only two sessions; see Table 3).

Individual Mind-Body Skills

One small RCT (Catani et al., 2009; $N = 31$) reviewed earlier in the Child Individual CBT section tested an individual mind-body skills approach based in meditation and relaxation as the comparison group for the predominantly exposure-based child CBT model (i.e., kidNET), with similar posttreatment and 6-month follow-up outcomes between the two conditions.

Individual Psychoanalysis

A small open trial (Nilsson & Wadsby, 2010; $N = 15$) tested a child individual psychoanalytic approach, Symbol drama, with Swedish adolescents. The intervention focused on guided imagery and visualization. Significant pre to post differences were found for dissociation, anxiety, depression, anger, and PTSS, with no differences for sexual concerns.

Level 5: Questionable Efficacy

Group Creative Expressive + CBT

Two large, international cluster RCTs (Tol et al., 2014, 2008) examined a group-based, child-only creative and expressive activities-based intervention—Classroom-Based Intervention (CBI)—delivered in schools compared to WLC for war-exposed youth. CBI integrated creative and expressive activities (e.g., cooperative games, drama, music, dance) with CBT (e.g., psychoeducation, coping skills, some imaginal exposure via drawing). CBI was largely ineffective in both studies. In the first RCT (Tol et al., 2008), PTSS were improved at the end of treatment and a 6-month follow-up. However, there were no other significant differences on outcomes examined (e.g., depression, aggression, functioning) in the first RCT (Tol et al., 2008), and there were no main intervention effects on any outcomes examined (i.e., PTSS, depression, or functioning) in the second RCT (Tol et al., 2014). In explaining the lack of effectiveness in both studies, the authors cited methodological or design problems (Tol et al., 2008), baseline symptom differences between the conditions (Tol et al., 2014), insufficiently rigorous fidelity assessment, and/or that CBT elements were not delivered in a sufficient dose.

Moderators and Mediators of Treatment Response

The trauma treatment studies included in this review infrequently examined mediators and moderators of treatment, likely due to small sample sizes that may have prohibited these analyses. Studies frequently *controlled* for the effects of potential moderators (e.g., Danielson et al., 2012; Scheeringa et al., 2011) but did not test for moderation effects. This section focuses only on moderators for *well-established* and *probably efficacious* treatment families, of which there were very few.

With only one exception (Salloum & Overstreet, 2008), in which younger girls showed less improvement in PTSS, demographic characteristics of child age and sex did not moderate treatment outcomes (Cohen et al., 2011; Deblinger et al., 2011; Murray et al., 2013; Salloum & Overstreet, 2008, 2012). Six other moderators were examined: cumulative trauma exposure (Murray et al., 2013), maternal PTSD symptoms, parental functioning (Nixon et al., 2012), treatment dose (Deblinger et al., 2011), explicit exposure (Deblinger et al., 2011; Nixon et al., 2012; Salloum & Overstreet, 2012), treatment modality (Salloum & Overstreet, 2008), and sudden gains (Aderka et al., 2011). Among these, only four were significant: parental functioning, treatment dose, explicit exposure, and sudden gains. In the area of parental functioning, maternal depressive symptoms and unhelpful trauma-related beliefs—but not maternal PTSS—moderated children’s response to treatment in one study (Nixon et al., 2012). In another, maternal PTSS moderated outcomes for child anxiety but not for PTSS (Weems & Scheeringa, 2013). Treatment dose moderated outcomes, with longer treatment (16 vs. 8 sessions) more effective in reducing avoidance and reexperiencing symptoms of PTSS (Deblinger et al., 2010). In three dismantling studies examining explicit exposure as a moderator, findings were mixed. Explicit exposure did not moderate outcomes for PTSS or depressive symptoms in any of the studies (Deblinger et al., 2011; Nixon et al., 2012; Salloum & Overstreet, 2012) but did moderate outcomes for general anxiety (Deblinger et al., 2011; Nixon et al., 2012), fear associated with talking or thinking about the abuse (Deblinger et al., 2011), and behavioral problems (Deblinger et al., 2011) at the end of treatment. Conditions with explicit exposure resulted in better outcomes for general anxiety and fear and less positive outcomes for behavior problems (Deblinger et al., 2011); however, differences disappeared by the 6- and 12-month follow-ups. Of interest, sudden gains influenced treatment outcomes: Participants with sudden gains had larger overall improvements in PTSS and depressive symptoms (Aderka et al., 2011).

Looking beyond studies included in this review, Silverman et al. (2008) noted other aspects of parental functioning that moderated outcomes, including parental emotional reaction to the child’s sexual abuse (Cohen & Mannarino, 1996, 2000) and parental support (Cohen & Mannarino, 2000). In objective coding of TF-CBT therapy sessions, Ready et al. (2015) found that high levels of accommodated, trauma-related beliefs (“I know now it wasn’t my fault”) moderated the relation between overgeneralized beliefs (e.g., “Nothing is safe”) and poorer treatment outcomes, particularly for younger children. In other reviews conducted during the 2008–2014 period (see Table 1), the lack of focus on mediators and moderators was noted, largely attributed to small samples. In a meta-analysis focused specifically on treatment of children exposed to sexual abuse, Trask, Walsh, and DiLillo (2011) found that none of the examined moderators were significant (i.e., child characteristics [i.e., age, sex, ethnicity], caregiver involvement, treatment modality).

DISCUSSION

Considerable evidence regarding the efficacy of psychosocial treatments for youths with mental health symptoms related to trauma exposure has been generated since the Silverman et al. review in 2008, with a total of 37 studies included in this evidence base update. Consistent with findings from Silverman et al., results provide evidence for CBT as the recommended first-line treatment approach given that all but one of the treatments in the *well-established* (Level 1) and *probably efficacious* (Level 2) evidence categories were CBT. However, outcomes for CBT were not universally positive (see Shirk et al., 2014; Schottelkorb et al., 2012, for examples). The only other treatment rated in the top two levels, EMDR, included CBT elements in two of the three studies reviewed. Providing additional confidence in CBT as the recommended approach, comparison conditions for RCTs included in this review were typically active treatments and not WLC (13 of 15 RCTs on CBT; 80%). In contrast, non-CBT treatments (including EMDR) have received less research attention, and the few existing studies that met review criteria tended to have more methodological weaknesses (e.g., small sample sizes, nonrandomized designs).

Although the overall message from this review supports findings from Silverman et al. (2008), the review offers important advancements, including evidence for multiple versions of CBT (e.g., with and without parent involvement, non-TF-CBT based approaches, approaches with and without explicit exposure, group and individual modalities) and greater attention to external validity (e.g., diverse samples, trials in community-based settings).

Well-Established Treatments: Common Elements

Almost all of the individual interventions within the *well-established* treatment families, the highest evidentiary category, included some combination of these six elements: (a) psychoeducation about trauma prevalence, impact, and the intervention; (b) training in emotion regulation strategies (e.g., relaxation, identification of emotion, cognitive coping); (c) imaginal exposure; (d) in vivo exposure; (e) cognitive processing; and/or (f) problem solving. These findings are consistent with Chorpita and Daleiden's (2009) distillation and mapping work identifying "practice elements" for PTSS. Most CBT interventions were similar in structure (e.g., practice of learned skills) and dose of delivery (e.g., consisted of approximately 10–20 sessions; range = 4–23). However, the specific emphasis of the individual interventions varied. Some were multicomponent with equal emphasis on emotion regulation skills to cope with trauma reminders, imaginal and/or in vivo exposure, and cognitive processing (e.g., CBITS, TF-CBT). Others delivered predominantly imaginal exposure (e.g., PE-A, kidNET) or cognitive processing (cognitive therapy; Nixon et al., 2012).

Some were delivered individually (TF-CBT) and some via group format (CBITS). Findings from our review suggest that within the broad treatment category of CBT, providers, organizations, and policymakers likely have substantial room to incorporate provider and client choice about which particular treatment to use, within trauma-focused CBTs. Of course, not all individual treatments within a treatment family have the same amount of empirical support. Some individual interventions, like CBITS and TF-CBT, have received more research attention. Two particular areas in which client and provider preference may drive decisions, until clearer empirical guidance is available, are parent involvement and inclusion of explicit exposure.

Is Parent Involvement Necessary?

The multiple versions of CBT vary with regard to parent involvement. Whether parents need to be involved in treatment continues to be a debated issue in the field (e.g., Leenarts, Diehle, Dorelejiers, Jansma, & Lindauer, 2013). At the time of the Silverman et al. (2008) review, the only *well-established treatment*—TF-CBT—included substantial parent involvement. However, across the 21 RCTs included in their review, meta-analyses indicated that parent involvement was not critical for most outcomes (Silverman et al., 2008). Given the small number of studies (i.e., 21); however, analyses did not distinguish *type* of treatment (CBT vs. other) or *extent* of parental involvement (e.g., some parent involvement studies may have included very minimal involvement). In the area of anxiety, parent involvement typically improves the use of coping skills and other strategies but is not associated with significantly greater symptom reduction (Mendlowitz et al., 1999; Spence, Donovan, & Brechman-Toussaint, 2000). Treatment of trauma-related anxiety may be different, considering findings that parental mental health, support, emotional reaction to and unhelpful beliefs about trauma exposure moderated some important outcomes for children (Cohen & Mannarino, 1996, 2000; Nixon et al., 2012; Weems & Scheeringa, 2013). In a study employing objective, process coding of TF-CBT sessions (Yasinski et al., 2016), parental cognitive-emotional processing and emotional support predicted improvement in child internalizing symptoms, whereas parental avoidance and child blame predicted worse externalizing symptoms.

Our review suggests that including parents and other caregivers in treatment is still empirically supported; however, two of the three *well-established* treatment families in this review included minimal or no parent involvement (at least for children 7 and older), with relatively similar outcomes. This finding offers some hope for situations in which parent involvement is challenging (e.g., school-based services). The moderator analyses provide some guidance about situations when treatment should include parents, including when children are young (ages 3–6; Scheeringa et al., 2011), when children have behavioral problems

(Deblinger et al., 1996; Deblinger et al., 2010), when parents were perpetrators themselves (Runyon et al., 2010), and when parents have their own mental health problems (Weems & Scheeringa, 2013) and/or unhelpful trauma-related beliefs (Nixon et al., 2012). To definitively answer the question about parent involvement, more studies that specifically examine parent characteristics and other potential child-level moderators (e.g., child age, comorbid externalizing problems) are needed.

Is Trauma Narration Required?

Whether explicit exposure—imaginal, in vivo, or both—is required continues to be another debate in the field. Since the Silverman et al. (2008) review, three studies have specifically examined this question. In each study, children were randomized to treatment either with or without imaginal exposure (Deblinger et al., 2011; Salloum & Overstreet, 2012) or with and without imaginal and in vivo exposure (Nixon et al., 2012). However, participants in conditions without exposure still received a “trauma-focused” treatment with low-level, general exposure through other elements (e.g., psychoeducation, planning for emotion regulation when facing trauma reminders and triggers), and, in Nixon et al. (2012), cognitive processing of trauma-related thoughts. Findings from these studies suggest that *explicit* exposure may not be necessary. These findings are relatively consistent with two adult studies focused on a similar question (Foa et al., 1999; Resick et al., 2008). Explicit exposure is one of the elements with which clinicians often are most uncomfortable and may be one they are least likely to deliver (Borntrager, Chorpita, Higa-McMillen, Daleiden, & Starace, 2013; McLeod & Weisz, 2010). If explicit exposure is not required, CBT interventions may be more palatable to both clinicians and some clients.

Generalizability and Representativeness

When considering the generalizability of treatments for symptoms related to trauma exposure, the glass is both half-full and half-empty. In the area of external validity, the literature has progressed more quickly than for many other treatment areas. Compared to other reviews in this evidence base update series, studies focused on sequelae of trauma exposure included highly diverse ethnic and cultural groups in the United States, as well as diverse international youth both in their home countries (e.g., Bosnia, Norway) and in other settings as immigrants or refugees. The international studies included both high-income (Jensen et al., 2014) and low-income (Murray et al., 2013) countries. Potential external validity of these interventions is strengthened by a greater focus on effectiveness research and the utilization of a deployment-focused model (Weisz, 2004) in

which interventions are tested in “end goal” delivery settings (e.g., schools, public mental health clinics) with providers who would be likely to deliver these interventions if they were scaled up for population-level reach (Weisz, Southam-Gerow, Gordis, & Connor-Smith, 2003). Finally, studies included children and adolescents exposed to a wide range of traumatic events (see Table 3; interpersonal violence, war, physical abuse), many with poly-victimization.

In the area of internal validity, one improvement since Silverman et al. (2008) is that studies included in this review provided at least basic details on training and supervision processes (e.g., manual used, supervision frequency and by whom) to support treatment integrity. However, few evaluated treatment fidelity or integrity (see Southam-Gerow & McLeod, 2013), and even fewer used rigorous objective methods (e.g., masked coders using standardized coding systems). Rigor of integrity measurement was also, for the most part, confounded with setting and providers in that studies conducted in community settings were less likely to evaluate integrity (see Jaycox et al., 2009, for an exception). As Schoenwald (2011) and others have stated, research methods for fidelity monitoring fit poorly with community practice, but evaluations of treatment integrity are critical for making sense of study outcomes.

Although there have been advancements, the literature on treatment for trauma-related symptoms continues to be plagued by studies comprising small sample sizes, particularly for culturally diverse groups. Of the RCTs included in this review and in the Silverman review, 21 of 48 (43.75%) had sample sizes of 50 or fewer participants; 37 of 48 (77.08%) had sample sizes of 100 or fewer. In addition to small samples, studies cannot definitively attribute symptoms treated in these studies to trauma exposure (as opposed to attributing these symptoms to preexisting mental health problems). Most treatments seemed to target PTSS, as in Silverman et al. (2008), but often assessed a wide range of other outcomes. Only some authors differentiated between primary and secondary outcomes (e.g., Salloum & Overstreet, 2012).

Another limitation of the current evidence base noted in the prior review (and sometimes related to sample size) is analytical appropriateness. Too few studies included clinically meaningful analyses, such as effect sizes or reliable change indices. Most relied on statistical tests of mean differences. Compared to the past review, twice as many studies in this review examined outcomes using intent-to-treat analyses (3 of 21; 14% in Silverman et al., 2008; 11 of 37; 29.73% in this review). However, most reported results for completer and not intent-to-treat analyses (see Salloum & Overstreet, 2008, for an exception). In addition, many of the studies included multiple sites and providers, but very few used a nested data analysis structure to examine site- or provider-level differences that might account for findings. Finally, the small sample sizes in most studies precluded examination of mediators and moderators of treatment.

Limitations of This Review

Our goal was to meet the objectives of this series of evidence base update reviews, which focus on treatment for specific problems (Southam-Gerow & Prinstein, 2014). Therefore, we made the decision to focus our review specifically on studies that selected participants who themselves reported trauma exposure and specific elevated mental health symptoms (by self- and/or parent-report). Studies that did not assess trauma exposure, but were conducted in areas of *likely* high trauma exposure (e.g., postnatural disaster areas), were not included. Similarly, and sometimes overlapping, some studies did not assess each child's mental health symptoms as a criterion for study/treatment inclusion (e.g., O'Callaghan, McMullen, Shannon, Rafferty, & Black, 2013; Swenson, Schaeffer, Henggeler, Faldowski, & Mayhew, 2010). This resulted in the exclusion of a large number of studies. We also excluded studies that were more focused on trauma-informed treatments versus trauma-focused treatments. Increasingly, trauma-informed practices and trauma-informed systems are growing in popularity, with, to our knowledge, very limited empirical support. This area would benefit from a thorough review. Finally, we did not search for and include unpublished literature or studies published in a language other than English.

Future Directions

Based on our review, the primary future direction is to focus research efforts on conducting more rigorous studies that involve dismantling multicomponent interventions to provide better empirical guidance on necessary treatment elements and who needs to participate in treatment (e.g., youth only, youth and parents). To better determine what works for whom, studies should ideally include samples large enough to examine mediators and moderators of treatment. Based on our review, it seems that some treatment elements may be comparably effective (e.g., imaginal exposure vs. cognitive processing), but empirical studies are needed both to simplify treatment and to give providers options, which may assist with their engagement in delivering EBTs (Borntrager et al., 2013). Particularly for community mental health, where dropout rates are high (e.g., Miller, Southam-Gerow, & Allin, 2008), simplifying treatment approaches and determining the necessary dose for different types of children and adolescents would be beneficial. A recent study (Wamser-Nanney, Scheeringa, & Weems, 2014) of individually delivered child and parent CBT demonstrated that some children were early responders after four sessions and that early treatment response was maintained. Determining alternative delivery approaches also is important (see Salloum et al., 2014, for an example).

However, the biggest challenge in trauma treatment is not determining which elements are required, necessary treatment dose, or even mediators or moderators. Instead, as in other areas of mental health and health care generally, the challenge is how to implement and sustain any

intervention with evidence of efficacy or effectiveness. Even basic behavioral change like provider hand washing in hospital care settings is difficult to implement and sustain (e.g., Squires et al., 2013). Complicated, multicomponent interventions present even greater challenges. When population-level impact is considered, interventions that are more feasible—even when less effective—can have substantially greater reach (see Zatzick, Koepsell, & Rivara, 2009, for an example). This review highlights that trauma treatment has made substantial progress since 2008, with innovative work ongoing (e.g., Wamser-Nanney et al., 2014). The challenge moving forward will be to balance the field's focus on what works for whom, with challenges of implementation and dissemination, population reach, and public health impact.

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