Review

A Systematic Review of Controlled-Trials for PTSD in Maltreated Children and Adolescents

Child Maltreatment
1-19

DOI: 10.1177/1077559520961176
journals.sagepub.com/home/cmx
SAGE

Rhiannon S. Bennett[1,2], Megan Denne[1], Rosie McGuire[1], and Rachel M. Hiller[1]

Abstract

Child maltreatment is associated with elevated risk of post-traumatic stress disorder (PTSD), which can often present alongside comorbidities. While evidence-based treatments for PTSD in young people already exist, there remains ongoing clinical and academic debate about the suitability of these approaches, particularly cognitive-behavioral approaches, for young people who have been exposed to more complex traumatic experiences, such as maltreatment. We conducted an updated systematic review of the evidence-base for psychological treatments for PTSD, specifically for maltreated young people. Fifteen randomized controlled trials and five non-randomized controlled clinical trials satisfied the inclusion criteria. Trials included treatments ranging from trauma-focused CBT to creative-based therapies. Trauma-focused CBT remained the best supported treatment for children and adolescents following child maltreatment, with new evidence that symptom improvements are maintained at longer-term follow up. The evidence for other therapies remained limited, and there were concerns regarding methodological quality. Implications for treatment decision-making are discussed.

Keywords

systematic review, child maltreatment, PTSD treatment, youth

Child maltreatment—broadly defined as child physical, sexual, and/or emotional abuse, neglect, and/or exposure to domestic violence, in the context of a relationship of responsibility (WHO, 2016a, 2016b)—is considered a global social welfare and public health issue, with substantial costs to the individual, society, and economy (Fang et al., 2012; Ferrara et al., 2015; Gilbert et al., 2009). One well-documented consequence of exposure to child maltreatment is increased rates of mental health difficulties across the lifespan (Ford et al., 2007; Hillberg et al., 2011; Leeb et al., 2011; Lewis et al., 2019). One such mental health outcome is posttraumatic stress disorder (PTSD), a trauma-specific psychological disorder defined by symptoms of re-experiencing (e.g., intrusive memories, nightmares), avoidance (e.g., avoiding thinking about the trauma), altered arousal (e.g., easily startled, difficulty sleeping), and altered cognition and mood (e.g., thoughts like *I cannot trust anyone*; American Psychiatric Association, 2013). Rates of PTSD have been shown to be particularly elevated in young people exposed to maltreatment, with interpersonal trauma exposure in childhood a key predictor of elevated PTSD in later adolescence (Lewis et al., 2019). While efficacious treatments for PTSD exist (e.g., see NICE, 2018), namely trauma-focused cognitive and behavioral based treatments, there remains ongoing clinical and academic debate about their relevance for young people exposed to maltreatment, where complex comorbidities and other needs are often also present alongside the PTSD diagnosis (DeJong, 2010; Van der Kolk, 2017). As a consequence, there remains little clinical consensus for how to address this mental health outcome. This lack of consensus is problematic, given PTSD can be a chronic disorder that places the young person at elevated risk of a range of other mental health difficulties, as well as poorer educational and social outcomes. More broadly, failing to address the mental health needs of maltreated young people has been identified as a key pathway to the range of well-documented poor outcomes associated with maltreatment (e.g., elevated rates of unemployment, increased service utilization; e.g. Jones et al., 2011).

The National Institute of Health and Care Excellence (NICE, 2018) recommend individual trauma-focused cognitive behavioral therapy (TF-CBT) as the first-line treatment for children aged six or older presenting with PTSD after a traumatic event, with eye movement desensitization and reprocessing (EMDR) recommended if young people have not

[1] Department of Psychology, University of Bath, United Kingdom
[2] Avon & Wiltshire Mental Health Partnership NHS Trust, United Kingdom

Corresponding Author:
Rachel M. Hiller, Department of Psychology, University of Bath, United Kingdom.
Email: E. R.Hiller@bath.ac.uk

responded to TF-CBT. In contrast, the American Psychiatric Association suggests that the evidence-base for treatments for child and adolescent PTSD remains too low in quality and quantity to make strong recommendations (APA, 2017). Among academics and practitioners, there also remains ongoing debate about the appropriateness of CBT-based treatments for PTSD in maltreated young people (DeJong, 2010; Van der Kolk, 2017). This includes widely-held beliefs that these treatments are only appropriate for cases of single-incident trauma exposure, whereas maltreatment is commonly repeated exposure which is sometimes referred to as developmental trauma or complex trauma (Price-Robertson et al., 2013; Van der Kolk, 2005). Similarly, many young people who have experienced maltreatment might not have a clear "pre-trauma" period of safety, which can pose a challenge when applying existing models of PTSD treatment. Comorbid symptoms in maltreated young people can also complicate diagnosis and treatment of all symptoms, including those specific to PTSD (Ariga et al., 2008). While comorbidities are the norm for many groups of young people and adults who develop PTSD (e.g., Kilpatrick et al., 2003), debate around the impact of comorbidities on the suitability of cognitive-behavioral treatments for young people with maltreatment-related PTSD has remained particularly strong. There also remains questions about how routinely these recommended treatments are delivered in practice, particularly in cases of more complex trauma experiences. Clinician concerns about the appropriateness of more structured manualised approaches and their applicability in complex cases, have been identified as particular barriers to use (Finch et al., 2020).

While previous reviews for psychological treatments for maltreated young people exist, there remains a number of important gaps. These reviews often have focused on a specific type of maltreatment (e.g., exposure to domestic violence or sexual abuse; Macdonald et al., 2012; Miller-Graff & Campion, 2016) or incorporated a range of trauma exposures not limited to maltreatment (Gillies et al., 2016; Stallard, 2006; Wetherington et al., 2008). Maltreatment rarely occurs in a single form or as a one-off incident. Further, in 2013 the DSM-5 introduced the concept of pre-school PTSD for children aged 6 years and under. Whether this has led to further evidence for TF-CBT or indeed other approaches (e.g., attachment approaches) largely remains to be incorporated in reviews. Finally, these reviews have typically focused on cognitive behavioral interventions only (Leenarts et al., 2013; Stallard, 2006) or evidence from randomized controlled trials [RCTs] (Gillies et al., 2016). While RCTs are gold-standard methodology, a sole focus on RCTs potentially excludes therapies that may be widely used in practice, but have received less empirical focus. Leenarts and colleagues (2013) attempted to address some of these issues via their systematic review of psychological interventions for trauma-related psychopathology in maltreated young people. While they included controlled and uncontrolled trials, their focus remained exclusively on interventions employing cognitive behavioral elements, with TF-CBT being the best supported intervention. In the context of maltreatment-related PTSD in particular, understanding the quality and extent of the broader intervention evidence base is potentially particularly necessary for guiding practice, given ongoing clinical debate and the wide gap between research and practice in the use of first-line recommended evidence-based interventions (Finch et al., 2020).

The aim of this review was to provide an update on the evidence-base for psychological interventions for maltreatment-related child PTSD, in controlled trials of broadly-defined psychological interventions. The review builds on Leenarts et al. (2013), but also considers interventions beyond CBT and with children under 6 years old, to provide a broader update on the evidence base and recommendations for future work in this field.

Method

Search Strategy

The review was pre-registered on PROSPERO (CRD42017084727) and conducted according to PRISMA reporting guidelines (see Figure 1; Moher et al., 2009). We conducted a search of three electronic databases (PsychNET, PubMed and PILOTS). As this review aimed to update the Leenarts et al. (2013) review, search terms were developed based on this review and with guidance from a University subject-specific librarian who supported the first author to identify appropriate synonyms and controlled terms within each database. Free text terms were also included to account for articles that may have been indexed incorrectly. The final search strategy combined words related to maltreatment (e.g., maltreatment OR abuse OR neglect) with PTSD (e.g., post-traumatic stress OR emotional trauma OR acute stress disorder OR complex PTSD), treatment (e.g., treatment OR therapy OR intervention) and children (e.g., child OR adolescent). The searches were limited to studies published between 01/01/2011 and 15/12/2018, as an update to Leenarts et al. (2013). This start date was selected to allow some overlap between this review and Leenarts, to ensure papers were not missed that may have been In Press during the previous review. Age filters were used in PubMed and PsychNET. References of relevant review papers and included papers were hand screened to search for any overlooked papers not identified in the initial search. This resulted in the identification of 2,730 papers.

Study Selection

Titles and abstracts were imported into COVIDENCE and duplicate papers were removed (leaving 2,247 papers; see Figure 1). The review only included studies that were written in English. Titles and abstracts were screened by the lead author and excluded if they did not meet the following criteria:

Participants Studies. met inclusion criteria if participants were children and adolescents $\leq$18 years old and the majority, defined as $\geq$50%, of the sample experienced maltreatment. Maltreatment was operationalized according to the WHO's

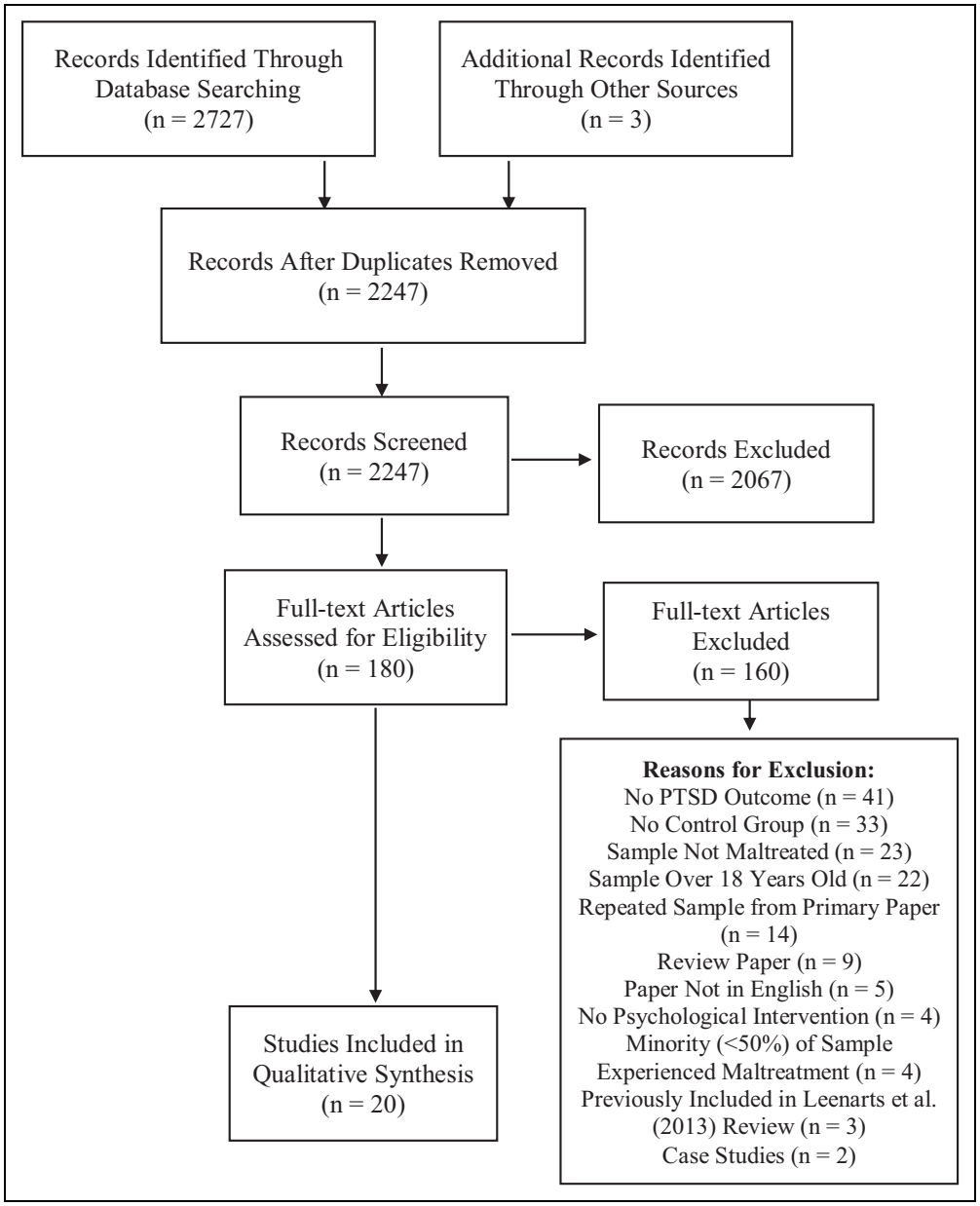

Figure 1. PRISMA diagram for study inclusion process.

(2016a) definition: "all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power. Exposure to intimate partner violence is also sometimes included as a form of child maltreatment." Studies focusing on war related trauma, community violence and traumatic grief exposure were excluded.

Intervention. Studies met inclusion criteria if they included any psychological intervention, defined as any psychosocial intervention that targeted PTSD symptoms. No restrictions were placed on the format of delivery. Studies in which parents/caregivers were the sole recipients of treatment were only included if PTSD symptoms of the maltreated children were reported.

Comparison condition. The treatment group had to be compared to a control population, which could be a waitlist (WL), treatment-as-usual (TAU), or any active intervention. RCTs and non-randomized controlled trials (quasi experiments and case-control studies) were included, providing the above criteria were met, while single case and cross-sectional designs were excluded. Studies published as books, book chapters or theses were considered, provided they met the criteria above.

Outcome. Studies had to include a measure of PTSD symptoms as an outcome of intervention effectiveness, with a minimum of two assessment points (pre and post). The measure could be an established symptom checklist or diagnostic interview.

Screening procedure. See Figure 1 for flow-chart. Of the 2,247 papers identified, a second independent rater also screened 50%, with 99% agreement. Papers were primarily excluded at this stage as the study was on adult survivors of maltreatment or there was no intervention delivered. Where there was disagreement, to be conservative, papers were kept in for further screening. This left 180 papers, where the full text was reviewed for inclusion. Of these, 15% were reviewed by a second rater, with 72% agreement. Where there was disagreement, discussion between the two raters was held and remaining disagreements were discussed at a consensus meeting with a third researcher. The primary reason for disagreement was where it was unclear whether the majority of the sample had experienced maltreatment. In these cases, authors were contacted for further clarification. If no reply was received within 1 month, the study was excluded. This left a total of 20 studies that were eligible for inclusion. Two of these studies were longer-term follow-ups of past trials, of which one (Jensen et al., 2017) was a follow-up for a paper where the original trial publication is also in this review, and the other (Mannarino et al., 2012) reported on a follow-up of an original trial that was included in the Leenarts et al. (2013) review. Of the 18 original samples, there were 2,714 participants.

Data Extraction and Quality Assessment

Data extraction forms were developed to retrieve information regarding publication details, study design, sample characteristics, maltreatment characteristics, outcome measures, intervention and comparator characteristics, outcomes and limitations. Full details of included studies are presented in supplementary materials. The quality of studies was assessed using the Cochrane collaboration's risk of bias tool version 2 (ROB-2; Higgins et al., 2016) or, where appropriate, the risk of bias in nonrandomized studies—of interventions (ROBINS-I; Sterne et al., 2016). ROB-2 assesses bias resulting from five domains: randomization process, deviations from intended interventions, missing outcome data, measurement of the outcome and selection of the reported result. Each of these domains is judged on a 3-point rating scale: "low risk of bias," "some concerns" or "high risk of bias." ROBINS-I has seven domains, with those domains from ROB-2 (except randomization process) and three additional domains of bias: confounding variables, selection of participants into the study pre-intervention and classification of intervention. Each domain is judged as "low risk," "moderate risk," "serious risk," "critical risk" or "no information." Studies judged as low risk are comparable to a well-conducted RCT in that domain, while those judged as critical risk are considered too problematic to provide useful evidence about the effect of the intervention. Papers were assessed for quality according to information reported in the original paper and available trial protocols registered by the author (see supplementary material). Twenty-five percent of the papers were also randomly selected (via computer generation) for blind quality review by a second rater (co-author RM). There was 75% agreement, with disagreement only on minor issues rather than overall quality, and resolved at a consensus meeting with the senior author.

We report standardized Cohen's d between group effect sizes at post intervention and at follow up. Where possible, these were either taken directly from the paper or calculated using the information provided in the paper (not possible for three studies).

Results

Study Design

Full details of the study design of each included study are presented in Table 1. Of the 20 studies, 10 were from the US, five from Europe, two from Africa, two from Asia and one from South America. Fifteen studies were RCTs and five studies were non-randomized controlled trials (see Table 1 for specific references). Two of the studies used a matched control group who received no treatment (Hamama et al., 2011; Razuri et al., 2016), four studies utilized a TAU control group (Auslander et al., 2017; Brillantes-Evangelista, 2013; Jensen et al., 2014; Murray et al., 2015), six studies included a waitlist control (Barron et al., 2017; Carpenter et al., 2016; Church et al., 2012; Goldbeck et al., 2016; O'Callaghan et al., 2013; Shein-Szydlo et al., 2016) and seven studies used an active intervention as a comparison group (Bartlett et al., 2018; Dietz et al., 2012; Foa et al., 2013; Gosh Ippen et al., 2011; Mannarino et al., 2012; Overbeek et al., 2013; Pernebo et al., 2018). Further details on the study comparison conditions are presented in Table 1.

Sample Description

Nature of sample. Details of key study characteristics are presented in Table 1. Across all included studies, participants were aged 3–18 years old and were predominantly female (62%). Most studies (75%) included children six years old and over only. Eight studies recruited teenagers only (aged 12–18 years). Two studies focused on school-aged children (aged 4–13), with the mean ages of 9–11 years old (when reported), and one focused exclusively on pre-school children (age < 5 years). Six studies had a wide age range including both children and teenagers (see Table 1 for references). Four studies had all-female samples, while only one study had an entirely male sample. Nine studies reported a majority of participants who self-identified as White or Caucasian, three reported majority of participants who identified as Black, one reported majority Hispanic and one majority Latino or White/Latino. Six studies did not describe the ethnicity of the sample (see Table 1).

Nature of maltreatment. Studies included a range of different types of maltreatment with 74% of studies ($n = 14$ of 19;

Table 1. Overview of Study Design and Characteristics.

Authors, Country, Design	Participant Details	Maltreatment	Focal Intervention Details	Control Details	PTSD Measure	PTSD Measure Timepoints
Auslander et al. (2017) USA RCT	N = 27 Welfare Children 12–18 years (M = 14.65) 100% Females 44.4% Black	History of abuse and neglect Child protective services report	CBITS—Girls Aspiring toward Independence 10 sessions (90 mins) CBT Group Parent—two sessions	TAU In-home therapy, outpatient mental health clinic services, and school-based counseling	Self-report: CPSS	Baseline; 3 m post; 6 m F/U
Barron et al. (2017) Scotland RCT	N = 17 Juveniles in secure accommodation 14–18 years (M = 15.05) 64.7% Females 100% Caucasian	Traumatic Events M = 8.47 (Range 4–12) Sexual abuse (71%) Physical abuse (88%) Physical assault (100%) DV (71%) Witness DV (47%) Neglect (59%) Emotional abuse (41%) Trauma History Interview	The Children and War Foundation's Teaching Recovery Techniques (TRT) 14 sessions (40 mins) Twice weekly CBT-based Group	WL	Self-report: Trauma SUDS CRIES-13 ADES	Baseline (2w pre); Post (2w after)
Bartlett et al. (2018) USA Cohort Control	N = 839 0–18 years (M = 9.14) 53.9% Females 70.31% White	Physical Abuse, Neglect, Caregiver Impairment (M = 5 traumas) Child Welfare	ARC; M = 29 sessions Individual CPP; M = 16 sessions Individual & Parent	TF-CBT M = 21 sessions Individual	Interview: PTSD-RI Caregiver self-report: YCPC	Baseline; 6 m; 12 m; 18 m
Brillantes-Evangelista(2013) Philippines Quasi-Experiment	N = 33 from shelters 13–18 years 63.6% Females	Physically and sexually abused =>1 year ago No information	Visual Arts or Poetry 8 sessions (3 h) Weekly Group	No treatment (optional access to activities/counseling in shelters)	Self-report: CROPS	Baseline; Mid; Post
Carpenter et al. (2016) England RCT	N = 242 6–16 years (M = 10.7) 75% Female 25% Male 9% BME 17% Disabled 12% "looked after"	Contact sexual abuse M = 6.9 age for onset Nearly 60% 2+ times 65% intra familial, 35% extra familiar, 80% single perpetrator, 58% adult perpetrator >50% older children and 33.3% younger children experienced 3+ types of abuse including physical, verbal & sexual abuse at home and bullying by other children Caregiver & child completed Juvenile Victimization Questionnaire. Interviews by practitioners to obtain details of sexual abuse.	Letting the future in 20 sessions M = 15 Varied frequency Individual Parent—conjoint	WL	Clinical Status Self-report: TSCC Parental self-report: TSCYC	Baseline; 6 m F/U; 12 m F/U

(continued)

Table 1. (continued)

Authors, Country, Design	Participant Details	Maltreatment	Focal Intervention Details	Control Details	PTSD Measure	PTSD Measure Timepoints
Church et al. (2012) Peru RCT	N = 16 Juveniles 12–17 years (M = 13.9) 100% Males[a]	Physical or psychologically abused at home—neglect/sexual abuse. Residential treatment facility—ordered by judge if parents have history of maltreating their children	Emotion Freedom Technique (EFT) 1 session Individual	WL	Self-report: IES	Baseline; 30 days later
Dietz et al. (2012) USA Controlled Trial	N = 153 from child advocacy center 7–17 years (M = 10.97–11.63) 93.5% Females 43.1% Hispanic	Sexual Abuse 81% Adult Perpetrator 62% 1–2 times >20% 5+ times, 50% <6 m duration Validated cases	Storytelling—dogs (DWS) 12 sessions Group	No storytelling—dogs (DNS) Storytelling—no dogs (SND)	Self-report: TSCC	Baseline; Post
Foa et al. (2013) USA RCT	N = 61 13–18 years (M = 15–15.7) 100% Female 55.7% Black 57% = 1+ comorbid psychiatric diagnoses	Sexual Abuse Interview—screening by counselor at rape center	PET 14 sessions (60–90 mins) Weekly Individual	Supportive Counseling (SC)	Interview: CPSS-I, K-SADS Self-report: CPSS	Baseline; Mid; Post; 3 m F/U; 6 m F/U; 12 m F/U
Goldbeck et al. (2016) Germany RCT	N = 159 7–17 years (M = 13.03) 71.7% Females 89.9% German Native	Sexual Abuse, Sexual Assaults, Physical Violence or Witnessing DV 76.7% Interpersonal Trauma Interview	TF-CBT 12 sessions (90 mins) Weekly Individual Parent—parallel and conjoint	WL (4 m)	Interview: CAPS-CA Self-report: PTSD-RI child PTSD-RI caregiver	Baseline; Post
Gosh Ippen et al. (2011) USA RCT	N = 75 3–5 years (M = 4.06) 52% Females 38.7% Mixed Ethnicity (Latino/White)	Physical abuse (29.3%) Sexual abuse (12%) Witnessing DV (97.3%) Neglect (5%) Mothers report CTS-2	CPP 50 sessions (60 min) M = 32 Weekly Parent—conjoint	TAU Individual Psychotherapy plus case management (30mins monthly calls)	Interview: PTSD-SSI CAPS-CA	Baseline; Post (1y)
Hamama et al. (2011) Israel Cohort Control	N = 18 14–16 years 100% Females[a]	Physical or Sexual Abuse History (3–4 years before study) Identified by school counselor	Canine Assisted Therapy 12 sessions (3 h) Weekly Group	No treatment	Self-report: PCL	Baseline; Post

(continued)

Table 1. (continued)

Authors, Country, Design	Participant Details	Maltreatment	Focal Intervention Details	Control Details	PTSD Measure	PTSD Measure Timepoints
Jensen et al. (2014) USA RCT Jensen et al. (2017)	N = 156 10–18 years (M = 15.1) 79.5% Female 73.7% Norwegian N = 143	Family violence, physical and sexual abuse and other non-abuse traumas (accident, natural disaster, sudden death of close person, robbed) 49.7% DV or physical abuse as target trauma but endorsed by more Checklist based on Traumatic Events Screening Inventory for Children.	TF-CBT 12–15 sessions Individual Parent—parallel and conjoint	TAU Individual psychological interventions deemed most appropriate by therapists	Interview: CAPS-CA Self-report: CPSS Self-report: CPSS	Baseline; Mid; Post 12 m F/U, 18 m F/U
Mannarino et al. (2012) USA RCT	N = 158 4–11 years M = 7.60 62% Females 65% Caucasian	Sexual abuse 61% experienced contact/penetration, 42% Adults Perpetrators Verified by independent child abuse professional	TF-CBT (narrative) 8 vs. 16 sessions (30 mins) Weekly Individual Parent—parallel and conjoint (30 min)	TF-CBT (no narrative) 8 vs. 16	Interview: K-SADS	
Murray et al. (2015) Zambia RCT	N = 257 OVC 5–18 years (M = 13.66) 48.1%–51.6% Females 45.8%–46.8% Other 31%–32.1% Bemba	Physical Abuse (M = 5 traumas) 70% Physically Abused 65% Witnessed DV 17% Sexually Abused PTSD-RI	TF-CBT 10–16 sessions (60–90 mins) Weekly Individual Parent—conjoint	TAU Support groups, counseling, education, medical support, weekly phone calls and monthly visit to assess safety	Self-report: PTSD-RI	Baseline; Post
O'Callaghan et al. (2013) North Kivu RCT	N = 52 war affected 12–17 years 100% Females[a]	Witnessed or personal experience of rape or sexual abuse Traumatic Life Events Questionnaire	TF-CBT 15 sessions (60 mins) [b] Weekly Group plus caregiver sessions	WL	Self-report: PTSD RI	Baseline; Post; 3 m F/U
Overbeek et al. (2013) Netherlands RCT	N = 155 6–12 years (M = 9.22) 44.5% Females 92.9% Netherland native	DV =>1 psychological or physical violence in last year. 6.9 events of psychological maltreatment by parent and 13.4 by partner. 0.45 physical maltreatment by parent and 3.62 by partner. Duration in abusive relationship M = 10.87 Continued contact with abusive partner 61.4% Report from police/child protection agency. Parent-Child CTS	"it's my turn now!" 9 sessions (90 mins) CBT Group Parent—parallel sessions	"you belong" Non-specific intervention Group	Self-report; TSCC Parental Self-report; TSCYC	Baseline; Post; 6 m F/U

(continued)

Table 1. (continued)

Authors, Country, Design	Participant Details	Maltreatment	Focal Intervention Details	Control Details	PTSD Measure	PTSD Measure Timepoints
Pernebo et al. (2018) Sweden Quasi-experiment	N = 50 4–13 years (M = 7.4) 48% Females[a]	100% DV and 62% Physical Abuse Mother report on revised CTS	CAMHS psychotherapy Group	"Children are People Too" Program Psychoeducation Community Group 12–15 Sessions (90 mins) Weekly Parents—parallel group	Parental Self-report: TSCYC	Baseline; Post
Razuri et al. (2016) USA RCT	N = 304 adopted children 5–12 years (M = 8.15) 50% Females Hispanic/Latino 38.3%–40.6%	78.1–82% Neglect 37.5%–43.8% Physical Abuse 16.4%–25% Sexual Abuse Adoptive parental reports	TBRI Trauma informed parenting 18 online modules (20–30mins) over 30d Individual	No treatment—matched group	Parental Self-report: TSCYC	Baseline; Post
Shein-Szydlo et al. (2016) Mexico RCT	N = 100 street children 12–18 years (M = 14.89) 64% Females[a]	56% Sexual Abuse, 47% Physical Abuse, 18% Witness Violent Event 35% >1 Traumatic Event DISC	TF-CBT Individual Weekly (12 × 60mins)	WL	Self-report: PTSD-RI CPSS	Baseline; Post; 3 m F/U

Note. ADES = The Adolescents Dissociative Experiences Scale; CRIES-13 = Children's Revised Impact of Events Scale; SUDS = Subjective Units of Distress; RCT = Randomized Controlled Trial; M = Mean; N = Sample Number; F/U = Follow Up; CPSS = Child PTSD Symptom Scale; PTSD = Post-traumatic Stress Disorder; m = Month; w = Week; h = Hours; d = Days; DV = Domestic Violence; WL = Waitlist; CROPS = Child Report of Posttraumatic Symptoms; PTSD-RI = Posttraumatic Stress Disorder—Reaction Index; YCPC = Young Child PTSD Checklist; CPP = Child Parent Psychotherapy; TF-CBT = Trauma Focused Cognitive Bbehavioral Therapy; BME = Black & Minority Ethnic Background; TSCC = Trauma Symptom Checklist for Children; TSCYC = Trauma Symptom Checklist for Young Children; K-SADS = Kiddie Schedule for Affective Disorders and Schizophrenia; TAU = Treatment As Usual; CPSS-I = Child PTSD Symptom Scale Interview; CAPS-CA = Clinician Administered PTSD scale for Children and Adolescents; CPP = Child Parent Psychotherapy; PCL = PTSD Checklist Civilian Version; CTS = Conflict Tactics Scale; CBT = Cognitive Behavioral Therapy; DISC = Diagnostic Interview Schedule for Children; ARC = Attachment, Self-regulation, and Competency; OVC = Orphans/Vulnerable Children; IES = Impact of Event Scale; TBRI = Trust Based Relational Intervention; CAMHS = Child and Adolescent Mental Health; PET = Prolonged Exposure Therapy; SC = Supportive Counseling; PTSD-SSI = PTSD Semi Structured Interview.

[a]Ethnicity details absent due to paper not providing information. [b]One group received more intensely thrice weekly (120 mins)

excluding the Jensen et al. follow-up study) explicitly reporting that the sample had experienced more than one form of maltreatment. Four studies reported sexual abuse as the primary form of maltreatment and one study reported exposure to domestic violence (DV) as the primary type (see Table 1). Of the 14 studies reporting more than one form of maltreatment, two specifically referred to psychological/emotional abuse alongside another form of abuse (see Table 1). The majority of studies assessed maltreatment through interviews or checklists ($n = 13$ of 19), five studies had maltreatment verified by child protection services, judge orders or reports, and one study had no information on how maltreatment history was obtained (Brillantes-Evangelista, 2013; Table 1).

Method of PTSD measurement. Most studies ($n = 14$ of 20) measured PTSD symptoms solely through self-report. The top three most commonly used measures were: Trauma Symptom Checklist for Young Children (TSCYC; Briere, 2005, $n = 4$), PTSD Reaction Index (PTSD-RI; Steinberg et al., 2004, $n = 4$) and the Child PTSD Symptom Scale (CPSS; Foa et al., 2001, $n = 5$). All self-report measures in the included studies were validated self-report measures of PTSD symptoms, although one study appeared to have used an adult-version of the scale (Impact of Events Scale). Two studies solely used structured diagnostic interviews. Four studies used a combination of self-report measures and diagnostic interview (see Table 1 for references). The most commonly used diagnostic interviews were the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS; Kaufman et al., 1997, $n = 2$) and Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA; Nader et al., 1996, $n = 3$). All studies employed the same measures across control and treatment groups but those with a wide age range utilized different measures according to age (e.g., caregiver versions for young children, rather than child or adolescent versions; full details in Table 1). Two studies measured PTSD solely through parental reports (Pernebo et al., 2018; Razuri et al., 2016). Eight studies included a further follow up after the post-intervention assessment, with time frames ranging from 3 to 18 months post-treatment.

Interventions. Information on the focal intervention for each paper are presented in Table 1. Intervention length varied from 1–50 sessions (see Table 1). The majority of studies ($n = 11$ of 19) delivered interventions underpinned by cognitive behavioral theory (see Table 1). Of these, six studies delivered TF-CBT, two delivered exposure therapy and three delivered general CBT interventions that incorporated elements of TF-CBT. Of the remaining studies ($n = 8$), two studies delivered Child Parent Psychotherapy, although one also delivered TF-CBT as comparison intervention (see Table 1). Two studies provided animal assisted psychotherapy, one combined TF-CBT with play and drama therapy, one employed art therapy, one assessed unspecified psychotherapy, and one assessed a trauma informed attachment-based parenting intervention. Ten delivered interventions in individual format, eight were delivered as groups, and one delivered the intervention online (see Table 1 for details and references). Due to the heterogeneity between studies and study designs, we have discussed the findings grouped by the focal intervention. Findings for individual studies are displayed in Table 2.

Cognitive Behavioral Therapy Interventions

Trauma-focused CBT. TF-CBT was evaluated in six studies (Bartlett et al., 2018; Goldbeck et al., 2016; Jensen et al., 2014; Murray et al., 2015; O'Callaghan et al., 2013; Shein-Syzdlo et al., 2016) with two further included studies evaluating longer term effects through follow up (Jensen et al., 2017; Mannarino et al., 2012). The number of sessions ranged from 8–21 ($M = 14$ sessions) and duration ranged from 60–90 minutes per session. Five of the studies included caregivers in the intervention either through parallel or conjoint sessions, although in one it was explicitly stated that most invited caregivers did not attend the intervention (Murray et al., 2015). Three studies compared TF-CBT to treatment as usual conditions (Bartlett et al., 2018; Jensen et al., 2014; Murray et al., 2015), which consisted of child parent psychotherapy (CPP), Attachment, Self-regulation, and Competency (ARC) program, counseling, support groups, and "psychological therapy as usual" (see Table 1).

In all studies, post-treatment effect sizes and within paper analyses showed TF-CBT to be the superior intervention, although in some cases effect sizes were small (detailed further below). An exception to this was a study by Bartlett et al. (2018), where TF-CBT was compared to ARC, and both treatments improved PTSD symptoms at a similar rate (post-treatment between group effects not provided, within group pre-post treatment effects of $d = 0.68$ for self-reported PTSD severity in ARC and $d = 0.53$ in TF-CBT). Overall, between group effect sizes comparing TF-CBT and control interventions post-treatment were reported for five of the six studies and ranged from $d = 0.44$–2.57 for self-report measures, representing a small to large effect on PTSD symptoms in favor of TF-CBT (see Table 1 for further details on comparison conditions). Only one study had delivered TF-CBT in group format and found a large effect size ($d = 1.99$), suggesting that TF-CBT can be effective when delivered in a group (compared to WL control; O'Callaghan et al., 2013). However, the sample size may be considered somewhat small for between group comparisons and conclusions on effectiveness ($N = 52$). The sample was also focused on females who had been sexually exploited and were victims of war. Between group effect sizes for PTSD symptoms assessed via diagnostic interviews post-treatment ($n = 2$ studies) ranged from $d = 0.44$–0.46, representing small significant effects, favoring TF-CBT (Goldbeck et al., 2016; Jensen et al., 2014). Of those studies that used a diagnostic interview, a greater percentage of those in the TF-CBT than control groups lost the diagnosis of PTSD at end of treatment (77.8% vs. 54.8% in Jensen et al., 2017 and 44.7% vs. 28.9% in Goldbeck et al., 2016).

Table 2. Overview of Study Findings.

Study	Between Group Effect Size at Post-Treatment	Between Group Effect Size at Follow Up	Key Additional PTSD Findings from Papers	Limitations
Auslander et al. (2017)	$d = 0.77$	$d = 0.57$	40% of CBT group in clinical range post treatment (36% at 6 m follow up) vs 70% of those in usual care (67% at follow up).	Small sample size; only females; feasibility study with descriptive statistics; confounding variables not measured—severity of child maltreatment, medication and use of UC between groups.
Barron et al. (2017)	$d = 0.36$ (PTSD total symptoms)			Small sample size; low power; WL group indirectly exposed to intervention information as in same facility; limited program fidelity observed.
Bartlett et al. (2018)			PTSD-RI Parent Severity 6 m: $d = 0.20$ (ARC) $d = 0.35$ (TF-CBT) 12 m: $d = 0.46$ (ARC) $d = 0.30$ (TF-CBT) PTSD-RI Child Severity 6 m $d = 0.38$ (ARC) $d = 0.62$ (TF-CBT) 12 m $d = 0.68$ (ARC) $d = 0.53$ (TF-CBT) YCPC Severity 6 m $d = 0.46$ (ARC) $d = 0.33$ (TF-CBT) NR (CPP) 12 m NR (ARC) $d = 0.80$ (TF-CBT)	Lack of no treatment control group; groups not randomly assigned—age differences between groups; no procedures to evaluate treatment adherence and optimum number of treatment sessions not received; small sample size for CPP; unblinded assessors; high number of clinicians to did not complete discharge assessments; high level of missing data means findings may under-represent those who terminated treatment.
Brillantes-Evangelista(2013)	$d = 0.74$ (Poetry vs. Control) $d = 0.90$ (VA vs. Control) $d = 0.05$ (Poetry vs. VA)			Interventions not designed by certified art therapists; use of quasi-experimental design; effect sizes not reported for some analyses; group allocation not random—groups may differ in demographics as information not reported.
Carpenter et al. (2016)			ITT: Letting the future in > WL at 6 m F/U on TSCC No significant different between groups at 6 m F/U on TSCYC (caregiver) total score. Clinical scores reduced at 6 m F/U for older children in letting the right future in but increased after. No significant difference in scores over time between groups when controlling for baseline scores.	Younger children still receiving intervention at 6-month F/U; lack of control group as WL group begun treatment by 6-month F/U; outcomes not available for all cases; assessors not blind; relatively short F/U period.
Church et al. (2012)	$d = 8.54$ (IES total)		EFT group no longer in clinical range whereas WL were.	WL does not control for characteristics of active treatments; no procedures to evaluate treatment adherence; assessors unblinded; lack of F/U; adult measure of PTSD used.

(continued)

Table 2. (continued)

Study	Between Group Effect Size at Post-Treatment	Between Group Effect Size at Follow Up	Key Additional PTSD Findings from Papers	Limitations
Dietz et al. (2012)	$d = 0.33$ (DNS vs. SND) $d = 0.29$ (DWS vs. SND) $d = 0.07$ (DWS vs. DNS)			Allocation to groups not random; lack of no treatment control group; baseline differences existed between groups—PTSD higher in DWS; Impossible to distinguish therapist effects by using different therapists and dogs for each group.
Foa et al. (2013)	$d = 1.01$ (CPSS-I)	$d = 0.81$ (CPSS-I 12 m)	CPSS-I within group (baseline to post): $d = 2.72$ (PET) $d = 1.71$ (SC) CPSS-I within group (baseline to F/U): $d = 2.67$ (PET) $d = 1.87$ (SC)	Results only generalizable to specific group—sexually abused females.
Goldbeck et al. (2016)	$d = 0.44$ (CAPS-CA, 4 m) $d = 0.44$ (PTSD-RI child, 4 m) $d = 0.46$ (PTSD-RI caregiver, 4 m)		CAPS-CA within group (baseline to post): $d = 1.51$ (TF-CBT) $d = 0.88$ (WL) UCLA child within group: $d = 1.20$ (TF-CBT) $d = 0.79$ (WL) UCLA parent within group: $d = 0.77$ (TF-CBT) $d = 0.28$ (WL)	No active control group to control for attention; lack of F/U; number of index events differed between groups.
Gosh Ippen et al. (2011)	$d = 0.22$ (<4TSE) $d = 1.65$ (4+ TSE)		Reduced PTSD diagnosis rates for 4+ TSE in CPP (5%) compared to UC (53%).	Small sample size; reliance on maternal report for measure of PTSD; restricted F/U period; arbitrary dichotomization of <4 and 4+ as <4 TSE group typically had 2+ so might be different for 1 TSE.
Hamama et al. (2011)	$d = 0.42$		Within group (change): $d = 1.12$ (canine therapy) $d = 0.08$ (control)	Small sample size; baseline differences existed between groups—PTSD severity and exposure to traumatic events.
Jensen et al. (2014) Jensen et al. (2017)	$d = 0.50$ (CPSS) $d = 0.55$ (fCPSS) $d = 0.46$ (CAPS-CA)	CPSS: $d = 0.17$ (12 m) $d = 0.25$ (18 m)	CPSS (within group change): $d = 1.27$ (TAU) $d = 1.92$ (TF-CBT) CAPS-CA (within group change) $d = 0.88$ (TAU) $d = 1.49$ (TF-CBT) At 18 m significantly fewer ppts in TF-CBT scored above clinical cut off on CPSS compared to TAU.	Unable to control for therapist effects; majority of sample female; high attrition rate at follow up (50%); restricted to self-report questionnaires at F/U; relatively little ethnic diversity in sample.
Mannarino et al. (2012)	$d = 0.44$*[1]	60% decrease at 12 m meeting diagnostic criteria.		Small sample size; results only generalizable to young children who have experienced sexual abuse and in stable home; unable to administer some measures due to age of sample; measure may not be sensitive to differences between two active treatments; children exposed to all groups experienced some trauma exposure.
Murray et al. (2015)			$d = 2.39$ (PTSDRI 38 item) *[2] $d = 2.57$ (PTSDRI 20 item) *[2] $d = 0.34$ (functional impairment) *[2] Adjusted model (controlling for time between assessment, primary caretaker, school status): $d = 2.41$ (Total PTS) $d = 0.26$ (Functional impairment)	Lack of F/U; single blind—participants aware of intervention received; few caregivers attended sessions; PTSD measure validated in Zambia with sexual abuse sample not physical abuse.

(continued)

Table 2. (continued)

Study	Between Group Effect Size at Post-Treatment	Between Group Effect Size at Follow Up	Key Additional PTSD Findings from Papers	Limitations
O'Callaghan et al. (2013)	$d = 1.99$		Within group total PTS: $d = 2.04$ (baseline to 3 m F/U) $d = 0.31$ (post to 3 m F/U)	Use of self-report measures; small sample size; may not generalize outside of urban setting with existing vocational support available; no comparison with alternative active treatment.
Overbeek et al. (2013)	$d = 0.18$ (parent reported) $d = 0.22$ (child reported)	$d = 0.07$ (parent reported) $d = 0.02$ (child reported)		Exposure to DV may be double counted by measure used; lack of no treatment control group. Control group had higher mean levels of PTSD symptoms at baseline.
Pernebo et al. (2018)	$d = 0.68$ (Total PTS)		TSCYC Total within (pre to post): Community intervention, $d = 0.35$ CAMHS intervention, $d = 0.47$	Lack of no treatment control group; lack of F/U; small sample size; attendance rates not reported; heterogeneous population; baseline differences between groups—CAMHS group greater percentage in clinical range; use of imaginal exposure and memory processes minor in both interventions.
Razuri et al. (2016)	$d = 0.08$		Caregiver reports PTS intrusion, avoidance, arousal, total severity and dissociation decreased in TBRI* but not control.	Volunteer sample of adoptive parents may not be representative; use of parent self-report who were unblinded to intervention received; lack of F/U; restricted information on samples pre-adoption experience.
Shein-Szydlo et al. (2016)	$d = 1.73$ (PTSD-RI) $d = 1.47$ (CPSS)		Scores in CBT group 3 m F/U remained stable from post intervention (70% retention). Clinician ratings (blinded) 61.2% much/very much improved in CBT and 4.1% of those in WL.	WL does not control for characteristics of active interventions; use of self-report and single informant; no F/U for those who left the institution; remaining at institution may influence F/U scores as provided safety.

Note. TSCC = Trauma Symptom Checklist for Children; TSCYC = Trauma Symptom Checklist for Young Children; PTS = Post Traumatic Symptoms; F/U = Follow Up; CAMHS = Child Adolescent Mental Health Service; DWS = Dogs With Stories; DNS = Dogs No Stories; SND = Stories No Dogs; WL = Waitlist; VA = Visual Arts Group; TSE = Traumatic and Stressful Life Events; CPP = Child Parent Psychotherapy; ITT = Intention To Treat; PET = Prolonged Exposure Therapy; SC = Supportive Counseling; CPSS-I = Child PTSD Symptom Scale Interview; TF-CBT = Trauma Focused Cognitive Behavioral Therapy; CBT = Cognitive Behavioral Therapy; TBRI = Trust Based Relational Intervention; IES = Impact of Event Scale; SUDS = Subjective Units of Distress Scale; GAIN = Girls Aspiring Toward Independence; TAU = Treatment As Usual; PTSD-RI = Posttraumatic Stress Disorder Reaction Index; TN = Trauma Narrative; ARC = Attachment, Self-regulation, and Competency; YCPC = Young Child PTSD Checklist; CPSS = Child PTSD Symptom Scale; m = Months; UC = Usual Care; NR = Not Reported; N.S. = Not Significant; *d* = Cohens Effect Size; CAPS-CA = Clinician-Administered PTSD Scale for Children and Adolescents; DV = Domestic Violence.
*Significant *[1]Taken from original trial. *[2]Mean change between group effect size calculated by dividing mean change different by pooled baseline standard deviation.

Given variation in effect sizes between studies, it is worth noting that the studies assessed as at lowest risk of bias (see supplementary materials) found a small effect size from both diagnostic interview and self-report ($d = 0.44$–0.46) in favor of TF-CBT compared with WL (Goldbeck et al., 2016), and small to medium effect sizes ($d = 0.46$–0.55) when TF-CBT was compared to TAU (see Table 1 for details of TAU; Jensen et al., 2014). The study with the largest effect size (Shein-Syzdlo et al., 2016) used self-report measures only as an outcome and was also conducted in a low-middle income country where TF-CBT was compared to waitlist.

Four studies investigated whether treatment effects were maintained at follow-up (Jensen et al., 2017; Mannarino et al., 2012; O'Callaghan et al., 2013; Shein-Syzdlo et al., 2016). Results presented in these papers suggested symptom reductions were maintained at 3-month and 12-month follow-ups (see Table 2). However, a between group post-treatment effect size could only be calculated for one study ($d = 0.17$–0.25; Jensen et al., 2017). Here, at the 18-month follow-up, those who received TF-CBT were less likely to score above clinical cut offs than TAU, and this difference was not significant (Jensen et al., 2017). As can be typical in long-term follow-ups, these studies all experienced high attrition rates resulting in small sample sizes with low power and potential confounders (e.g., safety away from abuse) at follow-up.

General CBT. Three studies evaluated more general CBT interventions. All three incorporated elements of TF-CBT (e.g., psychoeducation, coping and expressing emotions) but two were more closely aligned using Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Auslander et al., 2017) and psychoeducation, coping strategies, and brief exposure (Barron et al., 2017). All three studies were RCTs and delivered the intervention in group formats (9–14 sessions lasting 40–90 minutes). All three reported reduction in PTSD symptoms for the CBT group, however post-treatment between group effect sizes were often small and non-significant. In Barron et al. (2017), the reduction in PTSD symptoms in the focal treatment was non-significant, and the post-treatment between group effect small and non-significant (WL comparison). In this study, the quality assessment identified some concerns of risk of indirect exposure to the intervention in the comparison group, which may have reduced any effect of the focus intervention, while a key issue was also that the study was substantially under-powered. Auslander et al. (2017) demonstrated a medium effect post-treatment ($d = 0.77$) compared to usual care, favoring CBT. They found that 29% of the CBITS group no longer scored in the clinical range (baseline to 6-month follow up) compared to 3% in TAU. Finally, Overbeek et al. (2013) compared a group programme focused on coping and emotions to a non-specific therapy active control group intervention and found comparative effects at post-test ($d = 0.18$–0.22; small effect; see Table 2) and follow up ($d = 0.02$–0.07; small effect). In this paper, direct post-treatment comparison between the two interventions was difficult, as at baseline symptoms were higher in the control group. While these studies all showed group-based interventions drawing on CBT-techniques were feasible and potentially promising for maltreatment-related PTSD, effect sizes were small and often non-significant, and the quality of all three studies prevented definite conclusions.

Exposure Therapy

Exposure therapy was evaluated in two studies, both of which were RCTs. Church et al. (2012) found that a single 1-hour session of exposure therapy was substantially more effective at reducing PTSD symptoms than a WL comparison ($d = 8.54$; large effect). Foa et al. (2013) found that prolonged exposure therapy (PET) was more effective than supportive counseling in improving PTSD based on clinician's ratings post treatment ($d = 1.01$; large effect) and at follow up ($d = 0.81$). Self-reported PTSD severity was lower post-treatment and at 12-month follow up in PET than supportive counseling, with significantly more individuals in the PET group (83.3% vs. 54%) having lost the diagnosis of PTSD. Church et al. (2012) had an all-male adolescent sample living in an institution for abused children and Foa et al. (2013) had an all-female sample of sexually abused adolescents, therefore findings may not be generalizable (e.g., to younger children). The findings are promising given that both studies are of reasonable methodological quality, although sample size may be considered somewhat small for between group comparisons or definitive conclusions on effectiveness ($N = 51$ and $N = 61$; see supplementary materials for quality ratings).

Child Parent Psychotherapy (CPP)

Two studies evaluated CPP, an intervention approach focused on improving the parent-child attachment relationship (Bartlett et al., 2018; Gosh Ippen et al., 2011). One study found that CPP was more effective in reducing rates of PTSD among treatment completers than individual psychotherapy in pre-school children who experienced 4+ traumatic events ($d = 1.65$; large effect), however the difference between treatment groups in those who experienced fewer than 4 events was small and non-significant ($d = 0.22$; Gosh Ippen et al., 2011). These results must be interpreted in light of the paucity of information to determine whether assessors were blind to intervention received (see supplementary materials for quality ratings). Again, the sample size may also be considered relatively modest ($N = 75$). Bartlett et al. (2018) compared CPP to TF-CBT and ARC, delivered within community-based trauma treatment centers. They found TF-CBT and ARC were both superior to CPP (see Table 2). Of note, while this study had a wide age range (0–18 years old), most children who received CPP were aged 3 years old or younger, while almost all who received TF-CBT or ARC were older, making direct comparisons difficult.

Animal Therapy Interventions

Two studies evaluated animal assisted psychotherapy, both of which were non-randomized control studies. CBT components are part of the intervention in both studies: "safe place" imagery and sharing feelings with others (Hamama et al., 2011) and disclosing abuse stories and related feelings (Dietz et al., 2012). Hamama et al. (2011) compared canine-assisted psychotherapy to no treatment. While they reported a small non-significant effect size ($d = 0.42$), favoring the treatment, the small sample size ($N = 18$) makes comparisons statistically inappropriate. Dietz et al. (2012), explored three conditions with a sample size of 153 7–17 year olds and compared no dogs (the standard service therapy program, with topics and activities related to struggles for survivors of sexual abuse), storytelling with dogs (therapeutic stories about the dogs and topics related to difficulties for survivors of sexual abuse), and dogs without story telling (same therapy format as "no dogs," but with dogs present). They found storytelling with dogs was marginally more effective than their standard therapy without dogs ($d = 0.29$; small effect) and compared to the dogs without storytelling ($d = 0.07$; small effect). Both studies were rated as being at serious risk of bias in at least one domain (see supplementary material). Neither utilized a gold standard treatment as a comparison group or randomization.

Art Therapy Interventions

One study evaluated eight sessions of a creative art intervention (Brillantes-Evangelista, 2013). Both the visual arts group ($d = 0.90$; large effect) and poetry group ($d = 0.74$; large effect) were superior at reducing PTSD symptoms post treatment than the control group (no treatment). However, the study was assessed as at substantial risk of bias, due to serious methodological issues, including a lack of randomization and inappropriate statistical power for the quantitative analyses (see supplementary material).

Trauma Informed Parenting

One study evaluated trauma informed attachment-based parenting intervention (Razuri et al., 2016) and found that this was only marginally more effective than no-treatment control at reducing caregiver-reported child PTSD ($d = 0.08$; small effect).

Other Psychotherapy Interventions

We grouped remaining studies here, as although interventions were heterogeneous, the authors indicated that the interventions were underpinned by attachment and psychodynamic theory. The previously reported Bartlett et al. (2018) study compared ARC, TF-CBT and CPP. In older children, ARC and TF-CBT showed better outcomes for PTSD severity, and the re-experiencing and arousal symptom subscales at 12 months, but only TF-CBT was associated with improvements in avoidance/numbing symptoms. In younger children, scores on avoidance/numbing and arousal decreased at 6 months for both ARC and TF-CBT, however only TF-CBT was associated with improvement in avoidance/numbing and decreased total symptoms of PTSD at 12 months. Pernebo et al. (2018) compared a group trauma focused psychotherapy intervention in a child and adolescent mental health service (CAMHS) which consisted of exercises, dialogue and play to explore themes pertinent to family violence and the outcomes to a psychoeducation community-based group intervention. The psychoeducation intervention focused on education in violence, family relationships/communication and feelings/responses. The CAMHS intervention reduced total post trauma symptoms ($d = 0.68$; large) more than the community-based intervention, however this does not account for baseline differences in total PTSD symptoms between the groups. The authors report that interventions did not differ in effectiveness except for the subscales of anger and dissociation, where larger reductions were found in the CAMHS psychotherapy intervention ($d = 0.73$–0.75). The authors concluded that the intervention (15 weeks) was more favorable for younger children exposed to domestic violence with higher PTSD symptoms at baseline. One study compared "Letting The Future In" (LTFI) intervention which combined components of attachment, psychodrama, play therapy and TF-CBT (Carpenter et al., 2016) with a waitlist (WL) control. The study did not report between group effect sizes but found significant improvements in self-reported PTSD at 6-month follow up in LTFI group. However, at 12-month follow up there was a greater increase in clinical scores among older children in LTFI group than WL. While the study has high ecological validity, it also has a high risk of bias due to the WL group beginning interventions before measurements were taken for the intervention group. Given that LTFI integrates interventions including TF-CBT, future research might seek to understand if the program offers additional benefit to standard TF-CBT alone.

Quality Assessment

Overall, studies of cognitive-behavioral approaches, particularly trials of TF-CBT, tended to be the higher quality studies (see supplementary materials) while studies of art or animal assisted based interventions tended to be poorer in quality. The majority of RCTs were rated as at low risk of bias for randomization, deviation from intended intervention and missing outcome data (see supplementary materials). All but one study (Church et al., 2012) used an age appropriate validated measure of PTSD. The greatest risk of bias came from measurement of PTSD; the use of self-report outcomes. Several of the non-randomized trials had confounding variables (e.g., baseline differences in PTSD severity, trauma exposure between groups and WL group beginning treatment) that were not sufficiently controlled for, however two studies were judged to be of sound quality for non-randomized design scoring low or moderate across most domains (Dietz et al., 2012; Pernebo et al., 2018, see supplementary material).

Discussion

While it has been well-established that maltreated children are at increased risk of PTSD, there remains ongoing debate about the best interventions for this group, including whether cognitive behavioral interventions are appropriate in the context of this more complex trauma exposure (Finch et al., 2020). In their 2013 review, Leenarts and colleagues concluded that there was developing evidence for TF-CBT for maltreatment-related PTSD. In the 7-years since, the field has continued to grow additional and stronger evidence that supports TF-CBT for maltreated young people, as well as sustained longer-term effects and initial evidence that these interventions may also be appropriate in a group format and in lower-middle income countries. The evidence for non-CBT based therapies remained scarce, and these studies were often plagued by significant quality issues.

Since 2012, our review found that there have been 15 additional RCTs and five non-randomized controlled trials of psychological interventions for PTSD in maltreated children, predominately using cognitive-behavioral techniques. Overall, based on the strength of study designs and replication of findings across studies, TF-CBT remains the best supported treatment for PTSD in maltreated children. Since the Leenarts et al. (2013) review, the evidence-base for TF-CBT now also includes evidence that treatment gains can be maintained 1 year later (Jensen et al., 2017; Mannarino et al., 2012) although improvements 18-months later were less promising (Jensen et al., 2017). While this is based on one study and further research is clearly needed, it highlights the importance of researchers committing to longer-term follow-up periods to better understand whether effects are maintained, and if not, how this might be addressed, particularly for young people who may be at risk of future trauma-exposures. Our review also found further growing support for prolonged exposure therapy (PET) in reducing PTSD symptoms in maltreated children. PET was more effective in treating PTSD than an active therapy, both at post-treatment and follow up. While studies of PET have had somewhat small sample sizes for between group comparisons, the methods used tend to be high quality. The treatment programmes were also comparable in duration to TF-CBT, or less (just a single session in Church et al., 2012). It would therefore be useful for future studies to directly compare PET and TF-CBT, or begin to develop an understanding of, in which contexts, a certain treatment may be more useful. We also identified three studies that all utilized general CBT techniques in a group format. Here, current evidence for effectiveness was less convincing, particularly compared to evidence of large reductions in PTSD symptoms when TF-CBT was delivered in a group format. Findings highlight the need for further exploration and refinement of group based CBT approaches, which are often designed to be lower-intensity and more easily scalable (e.g., Barron et al., 2017), and could thus be useful as part of a stepped-care treatment model.

Interestingly, our search criteria found no new studies that had utilized EMDR post the Leenarts et al. (2013) review, where three studies of EMDR were identified. Of those reviewed by Leenarts et al. (2013), two reported small to medium effect sizes favoring EMDR over WL and one "a trend toward a decrease in PTSD symptoms." However, the review authors noted that studies were limited by small sample sizes and an absence of treatment fidelity checks (see Leenarts et al., 2013). In general, the evidence-base for EMDR with maltreated young people remains scarce (Moreno-Alcázar et al., 2017). Given some guidelines (e.g., NICE, 2018) have EMDR as a recommended treatment, understanding the relative benefits of EMDR versus TF-CBT in this population is important. While it did not meet our full inclusion criteria, Diehle and colleagues (2015) have published one of the few studies to directly compare EMDR and TF-CBT, in a sample where a proportion of young people had experienced maltreatment. They found that the difference in effectiveness between the two treatments was small and not significant for PTSD symptoms. Future research is needed to further refine treatment recommendations around these two interventions.

Our review also included non-CBT interventions to examine the evidence base for interventions that may be used more commonly in practice. We found eight studies that explored non-CBT based treatments in a controlled-trial design. These included animal assisted psychotherapy, an arts-based intervention, attachment-based parenting intervention, child parent psychotherapy and other intervention programs (combining psychotherapy, play, psychoeducation and attachment components). Between group effect sizes ranged from small to moderate, but many of these studies were plagued by significant methodological issues. No new conclusions can be drawn for the effectiveness of art-based interventions, primarily due to significant methodological limitations. Further, the study included on animal-assisted interventions incorporated principles of CBT and therefore future research would need to consider comparing animal-assisted interventions to standard CBT to determine whether they offer any additional benefit, for example in engagement. Future research examining Attachment, Self-regulation and Competency (ARC) interventions may be warranted, given promising findings when compared to TF-CBT. Of important note, non-CBT interventions were typically longer than TF-CBT when delivered to individuals (Mean = 31 sessions vs. 14 for TF-CBT) and comparable in length (8–15 sessions) only when delivered in a group format (e.g., animal, art-based and psychotherapy/psychoeducation interventions). Overall, although creative therapeutic approaches and psychotherapy may be popular in clinical practice, the evidence base for such approaches remains limited, particularly compared to the evidence for TF-CBT, and such programmes are likely to be utilizing more of clinician's time, thus are potentially less economically efficient for services.

There remain important outstanding questions around TF-CBT, including how to promote its use in practice, whether adjunct treatments might be needed for certain complex comorbidities (e.g., substance use), and whether stabilization periods are indeed required for certain presentations (e.g., where there is substantial dysregulation). However, this review also

highlights that based on current evidence, using existing TF-CBT manuals with young people with maltreatment-related PTSD, remains the best evidence-based approach (NICE, 2018). Many of the papers reviewed here highlighted samples with numerous complexities, and the evidence certainly challenges the idea that TF-CBT is not appropriate for young people who develop PTSD following these more complex trauma exposures (identified as a key barrier to the use of this treatment in practice; Finch et al., 2020).

This review also incorporated evidence for children aged six years and under (i.e., pre-school PTSD); only two studies of TF-CBT (Bartlett et al., 2018; Mannarino et al., 2012) sampled children under 6 years of age and met our inclusion criteria. However, the design and reporting of these studies prevented any conclusions being drawn about effectiveness of TF-CBT in maltreated pre-school children, as it was unclear what proportion of the samples were pre-schoolers, or whether results may have differed for this subgroup. That said, in previous research on pre-school PTSD not covered by this review, a trial of TF-CBT with pre-schoolers exposed to different types of traumas (e.g., single event accidental trauma, domestic violence) showed promising preliminary evidence that TF-CBT can be effectively adapted with pre-schoolers and lead to significant PTSD symptom reduction (Scheeringa et al., 2011). Only one study in our review focused exclusively on pre-school children, in which child parent psychotherapy (CPP), which has a focus on strengthening the relationship between child and caregiver to restore a child's functioning, resulted in reduced rates of PTSD diagnosis post intervention compared to individual psychotherapy (Gosh Ippen et al., 2011). The treatment of pre-school maltreatment-related PTSD, and exactly how existing treatments may need to be adapted, remains an important area of research.

Limitations

Limitations of this review largely reflect general limitations in the literature including the heterogeneity among studies in measures used, nature of maltreatment across samples and small sample sizes. First, there are more studies investigating sexual abuse and fewer studies of neglect and emotional/psychological abuse, which may influence generalizability. That said, specific types of maltreatment rarely occur in isolation (Office for National Statistics, 2020). Second, most studies relied on child self-reported PTSD symptoms and full diagnostic interviews, which are part of a gold-standard trials method, were often lacking. Thus, conclusions were often limited regarding clinically-significant change. Third, this study specifically focused on PTSD. However, the newly proposed complex PTSD is also likely relevant to these populations (WHO, 2018). Relatedly, young people who develop maltreatment-related PTSD often present with a range of complex comorbidities and these are commonly reported as a potential barrier to treatment decision-making (Finch et al., 2020). It was beyond the scope of the current study to explore whether treatments for PTSD resulted in reductions in comorbidities, including the complex features of complex PTSD. That said, it is important to note that comorbidities alongside PTSD are the norm, rather than the exception, for many groups of trauma-exposed young people and adults. Current guidelines and evidence from the broader child PTSD field suggests TF-CBT remains the best evidenced treatment for PTSD, both when it presents alongside complex features (Sachser et al., 2017) and in terms of simultaneously reducing common comorbidities, such as depression and anxiety (Cobham & Hiller, 2019). Nevertheless, these remain important questions for future reviews. Similarly, few studies examined other factors that may relate to treatment outcomes, such as premature drop-out or treatment engagement. While not the focus of the current review, these remain important areas for future research to guide clinicians in their decision-making. The experiences of maltreated children may vary enormously based on age, gender, ethnicity, education, comorbidities and the current circumstances of these children (e.g., still living at home vs. in care); such factors may have important implications for clinical practice and warrant further research.

In addition to the limitations of included studies described above, this systematic review has some limitations. First, it was beyond the scope of this review to apply our expanded search criteria to cover the date period by Leenarts et al. (2013). There may be non-CBT interventions from pre-2011 missed by this review, although broader reviews included relatively few non-CBT interventions (Goldman Fraser et al., 2013). Second, while this review focused on PTSD, it is important to note that maltreatment can result in diverse difficulties (e.g., depression, behavioral problems, and relationship problems) for which other interventions may be more effective. Finally, there is a risk of publication bias across studies because of the decision to exclude non-English papers.

Conclusions

In sum, findings from this systematic review show that TF-CBT remains the best supported treatment for maltreated children and adolescents with evidence of effects being maintained 1-year post-treatment. Other cognitive behavioral based interventions were also identified as promising (particularly prolonged exposure) and worthy of further investigation. More creative-based interventions were less well-studied and generally poorer in methodological quality, including lacking comparisons to the gold-standard treatment. Future research would benefit from examining the effectiveness of interventions for maltreated pre-school children experiencing PTSD, assessing for complex PTSD and a focus on whether particular treatments may be more or less effective for reducing common comorbidities.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The project was partially funded by an ESRC Future Leader grant and University of Bath Prize Research Fellowship awarded to RMH. RMH also receives funding from the National Institute of Health Research (Grant Reference Number NIHR200586). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

ORCID iDs

Rosie McGuire https://orcid.org/0000-0001-7029-679X
Rachel M. Hiller https://orcid.org/0000-0002-4180-8941

Supplemental Material

Supplemental material for this article is available online.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

American Psychiatric Association. (2017). Clinical practice guideline for the treatment of posttraumatic stress disorder (PTSD) in adults. https://www.apa.org/ptsd-guideline/ptsd.pdf

Ariga, M., Uehara, T., Takeuchi, K., Ishige, Y., Nakano, R., & Mikuni, M. (2008). Trauma exposure and posttraumatic stress disorder in delinquent female adolescents. *Journal of Child Psychology and Psychiatry 49*, 79–87. https://doi.org/10.1111/j.1469-7610.2007.01817.x

Auslander, W., McGinnis, H., Tlapek, S., Smith, P., Foster, A., Edmond, T., & Dunn, J. (2017). Adaptation and implementation of a trauma-focused cognitive behavioral intervention for girls in child welfare. *American Journal of Orthopsychiatry 87*, 206–215. https://doi.org/10.1037/ort0000233

Barron, I., Mitchell, D., & Yule, W. (2017). Pilot study of a group-based psychosocial trauma recovery program in secure accommodation in Scotland. *Journal of Family Violence 32*, 595–606. https://doi.org/10.1007/s10896-017-9921-8

Bartlett, J. D., Griffin, J. L., Spinazzola, J., Fraser, J. G., Noroñad, C. R., Bodiane, R., Toddb, M., Montagna, C., & Bartof, B. (2018). The impact of a statewide trauma-informed care initiative in child welfare on the well-being of children and youth with complex trauma. *Children and Youth Service Review 84*, 110–117. https://doi.org/10.1016/j.childyouth.2017.11.015

Briere, J. (2005). *Trauma symptom checklist for young children: Professional manual*. Psychological Assessment Resources.

Brillantes-Evangelista, G. (2013). An evaluation of visual arts and poetry as therapeutic interventions with abused adolescents. *The Arts in Psychotherapy 40*, 71–84. https://doi.org/10.1016/j.aip.2012.11.005

Carpenter, J., Jessiman, T., Patsios, D., Hackett, S., & Phillips, J. (2016). Letting the Future In: A therapeutic intervention for children affected by sexual abuse and their carers: An evaluation of impact and implementation. *NSPCC* https://research-information.bristol.ac.uk/files/73876820/LTFI_Final_Report_11.02.16b.pdf

Church, D., Piña, O., Reategui, C., & Brooks, A. (2012). Single-session reduction of the intensity of traumatic memories in abused adolescents after EFT: A randomized controlled pilot study. *Traumatology 18*, 73–79. https://doi.org/10.1177/1534765611426788

Cobham, V., & Hiller, R. (2019). Treatment of PTSD and comorbid disorders. In P. Muris, L. J. Farrell, & T. H. Ollendick (Eds.), *Innovations in CBT for childhood anxiety, OCD & PTSD* (pp. 671–696). Cambridge University Press.

DeJong, M. (2010). Some reflections on the use of psychiatric diagnosis in the looked after or "in care" child population. *Clinical Child Psychology and Psychiatry 15*(4), 589–599.

Diehle, J., Opmeer, B. C., Boer, F., Mannarino, A. P., & Lindauer, R. J. L. (2015). Trauma-focused cognitive behavioral therapy or eye movement desensitization and reprocessing: What works in children with posttraumatic stress symptoms? A randomized controlled trial. *European Child & Adolescent Psychiatry 2*, 227–236.

Dietz, T. J., Davis, D., & Pennings, J. (2012). Evaluating animal-assisted therapy in group treatment for child sexual abuse. *Journal of Child Sexual Abuse 21*, 665–683. https://doi.org/10.1080/10538712.2012.726700

Fang, X., Brown, D. S., Florence, C. S., & Mercy, J. A. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse & Neglect 36*(2), 156–165.

Ferrara, P., Corsello, G., Basile, M. C., Nigri, L., Campanozzi, A., Ehrich, J., & Pettoello-Mantovani, M. (2015). The economic burden of child maltreatment in high income countries. *The Journal of Pediatrics 167*(6), 1457–1459.

Finch, J., Ford, C., Grainger, L., & Meiser-Stedman, R. (2020). A systematic review of the clinician related barriers and facilitators to the use of evidence-informed interventions for post traumatic stress. *Journal of Affective Disorders 263*, 175–186.

Foa, E. B., Johnson, K. M., Feeny, N. C., & Treadwell, K. R. H. (2001). The Child PTSD Symptom Scale: A preliminary examination of its psychometric properties. *Journal of Clinical Child and Adolescent Psychology 30*, 376–384. https://doi.org/10.1207/S15374424JCCP3003_9

Foa, E. B., McLean, C. P., Capaldi, S., & Rosenfield, D. (2013). Prolonged exposure vs. supportive counselling for sexual abuse related PTSD in adolescent girls: A randomized clinical trial. *Journal of the American Medical Association 310*, 2650–2657. https://doi.org/10.1001/jama.2013.282829

Ford, T., Vostanis, P., Meltzer, H., & Goodman, R. (2007). Psychiatric disorder among British children looked after by local authorities: Comparison with children living in private households. *The British Journal of Psychiatry 190*(4), 319–325. https://doi.org/10.1192/bjp.bp.106.025023

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet 373*(9657), 68–81.

Gillies, D., Maiocchi, L., Bhandari, A. P., Taylor, F., Gray, C., & O'Brien, L. (2016). Psychological therapies for children and adolescents exposed to trauma (Review). *Cochrane Database of Systematic Reviews 10*, CD012371. https://doi.org/10.1002/14651858.CD012371

Goldbeck, L., Sachser, C., Tutus, D., & Rosner, R. (2016). Effectiveness of trauma-focused cognitive behavioral therapy for children and adolescents: A randomized controlled trial in eight German mental health clinics. *Psychotherapy and Psychosomatics 85*, 159–170. https://doi.org/10.1159/000442824

Goldman Fraser, J., Lloyd, S. W., Murphy, R. A., Crowson, M. M., Casanueva, C., Zolotor, A., Coker-Schwimmer, M., Letourneau, K., Gilbert, A., Evans, T. S., Crotty, K., & Viswanathan, M. (2013). *Child Exposure to Trauma: Comparative Effectiveness of Interventions Addressing Maltreatment (Number 89)*. Agency for Healthcare Research and Quality. https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/trauma-interventions-maltreatment-child_research.pdf

Gosh Ippen, C., Harris, W. W., Van Horn, P., & Lieberman, A. F. (2011). Traumatic and stressful events in early childhood: Can treatment help those at highest risk? *Child Abuse and Neglect 35*, 504–513. https://doi.org/10.1016/j.chiabu.2011.03.009

Hamama, L., Hamama-Raz, Y., Dagan, K., Greenfield, H., Rubinstein, C., & Menachem, B. (2011). A preliminary study of group intervention along with basic canine training among traumatized teenagers: A 3-month longitudinal study. *Children and Youth Services Review 33*, 1975–1980. https://doi.org/10.1016/j.childyouth.2011.05.021

Higgins, J. P. T., Sterne, J. A. C., Savoić, J., Page, M. J., Hróbjartsson, A., Boutron, I., Reeves, B., & Eldridge, S. A. (2016). A revised tool for assessing risk of bias in randomized trials. In J. Chandler, J. McKenzie, I. Boutron, & V. Welch (Eds.), *Cochrane methods* (pp. 29–31). John Wiley & Sons.

Hillberg, T., Hamilton-Giachritsis, C., & Dixon, L. (2011). Review of meta-analyses on the association between child sexual abuse and adult mental health difficulties: A systematic approach. *Trauma, Violence, & Abuse 12*(1), 38–49.

Jensen, T. K., Holt, T., & Ormhaug, S. M. (2017). A follow-up study from a multisite, randomized controlled trial for traumatized children receiving TF-CBT. *Journal of Abnormal Child Psychology 45*, 1587–1597. https://doi.org/10.1007/s10802-017-0270-0

Jensen, T. K., Holt, T., Ormhaug, S. M., Egeland, K., Granly, L., Hoaas, L. C., Hukkelberg, S. S., Indregard, T., Stormyren, S. D., & Wentzel-Larsen, T. (2014). A randomized effectiveness study comparing trauma-focused cognitive behavioural therapy with therapy as usual for youth. *Journal of Clinical Child and Adolescent Psychology 43*, 356–369. https://doi.org/10.1080/15374416.2013.822307

Jones, R., Everson-Hock, E., Papaioannou, D., Guillaume, L., Goyder, E., Chilcott, J., Cooke, J., Payne, N., Duenas, A., Sheppard, L. M., & Swann, C. (2011). Factors associated with outcomes for looked-after children and young people: a correlates review of the literature. *Child: Care, Health and Development 37*(5), 613–622.

Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., & Ryan, N. (1997). Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy Child and Adolescent Psychiatry 6*, 980–988. https://doi.org/10.1097/00004583-199707000-00021

Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology 71*(4), 692.

Leeb, R. T., Lewis, T., & Zolotor, A. J. (2011). A review of physical and mental health consequences of child abuse and neglect and implications for practice. *American Journal of Lifestyle Medicine 5*(5), 454–468.

Leenarts, L. E. W., Diehle, J., Dorelijers, T. A. H., Jansma, E. P., & Lindauer, R. J. L. (2013). Evidence-based treatments for children with trauma-related psychopathology as a result of childhood maltreatment: A systematic review. *European Child & Adolescent Psychiatry 22*, 269–283. https://doi.org/10.1007/s00787-012-0367-5

Lewis, S. J., Arseneault, L., Capsi, A., Fisher, H., Matthews, T., Moffitt, T. E., Odgers, C. L., Stahl, D., Teng, J. Y., & Danese, A. (2019). The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet Psychaitry 6*, 247–256.

Macdonald, G., Higgins, J. P., Ramchandani, P., Valentine, J. C., Bronger, L. P., Klein, P., O'Daniel, R., Pickering, M., Rademaker, B., Richardson, G., & Taylor, M. (2012). Cognitive-behavioural interventions for children who have been sexually abused. *Cochrane Database of Systematic Reviews 2012*(5), CD001930. https://doi.org/10.1002/14651858.CD001930.pub3

Mannarino, A. P., Cohen, J. A., Deblinger, E., Runyon, M. K, & Steer, R. A. (2012). Trauma-focused cognitive-behavioral therapy for children: Sustained impact of treatment 6 and 12 months later. *Child Maltreatment 17*, 231–241. https://doi.org/10.1177/1077559512451787

Miller-Graff, L. E., & Campion, K. (2016). Interventions for post-traumatic stress with children exposed to violence: Factors associated with treatment success. *Journal of Clinical Psychology 72*, 226–248. https://doi.org/10.1002/jclp.22238

Moher, D., Liberati, A., Tetzlaff, J., Altman, D., & Group, T. P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine 6*, e1000097. https://doi.org/10.1371/journal.pmed.1000097

Moreno-Alcázar, A., Treen, D., Valiente-Gómez, A., Sio-Eroles, A., Pérez, V., Amann, B. L., & Radua, J. (2017). Efficacy of eye movement desensitization and reprocessing in children and adolescent with post-traumatic stress disorder: A meta-analysis of randomized controlled trials. *Frontiers Psychology 8*, 1750. https://doi.org/10.3389/fpsyg.2017.01750

Murray, L. K., Skavenski, S., Kane, J. C., Mayeya, J., Dorsey, S., Cohen, J. A., Michalopoulos, L. T. M., Imasiku, M., & Bolton, P. A. (2015). Effectiveness of trauma-focused cognitive behavioral therapy among trauma-affected children in Lusaka, Zambia: A randomized clinical trial. *JAMA Pediatrics 169*, 761–769. https://doi.org/10.1001/jamapediatrics.2015.0580

Nader, K., Kriegler, J. A., Blake, D. D., Pynoos, R. S., Newman, E., & Weather, F. W. (1996). *Clinician Administered PTSD Scale, Child and Adolescent Version*. National Center for PTSD. https://doi.org/10.1037/t08962-000

National Institute for Health and Care Excellence. (2018). Post-traumatic stress disorder: Management [NG116]. https://www.nice.org.uk/guidance/ng116

O'Callaghan, P., McMullen, J., Shannon, C., Rafferty, H., & Black, A. (2013). A randomized controlled trial of trauma-focused cognitive behavioural therapy for sexually exploited, war-affected Congolese girls. *Journal of the American Academy of Child and Adolescent Psychiatry 52*, 359–369. https://doi.org/10.1016/j.jaac.2013.01.013

Office for National Statistics. (2020). Child abuse extent and nature, England and Wales: Year ending March 2019. https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/childabuseextentandnatureenglandandwales/yearendingmarch2019

Overbeek, M. M., de Schipper, J. C., Lamers-Winkelman, F., & Schuengel, C. (2013). Effectiveness of specific factors in community-based intervention for child-witnesses of interparental violence: A randomized trial. *Child Abuse and Neglect 37*, 1202–1214. https://doi.org/10.1016/j.chiabu.2013.07.007

Pernebo, K., Fridell, M., & Almqvist, K. (2018). Outcomes of psychotherapeutic and psychoeducative group interventions for children exposed to intimate partner violence. *Child Abuse and Neglect 79*, 213–223. https://doi.org/10.1016/j.chiabu.2018.02.014

Price-Robertson, R., Higgins, D., & Vassallo, S. (2013). Multi-type maltreatment and polyvictimisation: A comparison of two research frameworks. *Family Matters 93*, 84–98.

Razuri, E. B., Howard, A. R., Parris, S. R., Call, C. D., DeLuna, J. H., Hall, J. S., Purvis, K. B., & Cross, D. R. (2016). Decrease in behavioural problems and trauma symptoms among at-risk adopted children following web-based trauma-informed parent training intervention. *Journal of Evidence-Informed Social Work 13*, 165–178. https://doi.org/10.1080/23761407.2015.1014123

Sachser, C., Keller, F., & Goldbeck, L. (2017). Complex PTSD as proposed for ICD-11: Validation of a new disorder in children and adolescents and their response to trauma-focused cognitive behavioural therapy. *Journal of Child Psychology & Psychiatry 58*, 160–168. https://doi.org/10.1111/jcpp.12640

Scheeringa, M. S., Weems, C. F., Cohen, J. A., Amaya-Jackson, L., & Guthrie, D. (2011). Trauma-focused cognitive-behavioral therapy for posttraumatic stress disorder in three-through six year-old children: A randomized clinical trial. *Journal of Child Psychology and Psychiatry 52*(8), 853–860.

Shein-Szydlo, J., Sukhodolsky, D. G., Denis, G., Kon, D. S., Tejeda, M. M., Ramirez, E., & Vladislav, V. (2016). A randomized controlled study of cognitive-behavioral therapy for posttraumatic stress in street children in Mexico City. *Journal of Traumatic Stress 29*, 406–414. https://doi.org/10.1002/jts.22124

Stallard, P. (2006). Psychological interventions for post-traumatic reactions in children and young people: A review of randomised controlled trials. *Clinical Psychology Review 26*, 895–911. https://doi.org/10.1016/j.cpr.2005.09.005

Steinberg, A. M., Brymer, M. J., Decker, K. B., & Pynoos, R. S. (2004). The University of California at Los Angeles post-traumatic stress disorder reaction index. *Current Psychiatry Reports 6*, 96–100. https://doi.org/10.1007/s11920-004-0048-2

Sterne, J. A. C., Hernán, M. A., Reeves, B. C., Savoić, J., Berman, N. D., Viswanathan, M., Henry, D., Altman, D. G., Ansari, M. T., Boutron, I., Carpenter, J. R., Chan, A-W., Churchill, R., Deeks, J. J., Hróbjartsson, A., Kirkham, J., Jüni, P., Loke, Y. K., Pigott, Y. D., Ramsay, C. R., … Higgins, J. P. T. (2016). ROBINS-I: A tool for assessing risk of bias in non-randomised studies of interventions. *BMJ 355*, i4919. https://doi.org/10.1136/bmj.i4919

Van der Kolk, B. A. (2005). Developmental trauma disorder. *Psychiatric Annals 35*, 401–408. https://doi.org/10.3928/00485713-20050501-06

Van der Kolk, B. A. (2017). Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals 35*(5), 401–408.

Wethington, H. R., Hahn, R. A., Fuqua-Whitley, D. S., Sipe, T. A., Crosby, A. E., Johnson, R. L., Liberman, A. K., Mościcki, E., Price, L. N., Tuma, F. K., Kalra, G., Chattopadhyay, S. K., & Task Force on Community Preventive Services. (2008). The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: a systematic review. *American Journal of Persistent Medicine 35*, 287–313. https://doi.org/10.1016/j.amepre.2008.06.024

World Health Organisation. (2016a). Child maltreatment. http://www.who.int/mediacentre/factsheets/fs150/en/

World Health Organisation. (2016b). *Measuring and monitoring national prevalence of child maltreatment: A practical handbook*. https://www.euro.who.int/__data/assets/pdf_file/0003/317505/Measuring-monitoring-national-prevalence-child-maltreatment-practical-handbook.pdf?ua=1

World Health Organisation. (2018). *International statistical classification of diseases and related health problems* (11th Rev.). https://icd.who.int/browse11/l-m/en