



Transmitting trauma: a systematic review of the risk of child abuse perpetrated by parents exposed to traumatic events

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Received: 24 May 2018 / Revised: 8 November 2018 / Accepted: 24 November 2018 / Published online: 1 December 2018
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Abstract

Objectives To review the empirical evidence of a potential association between parental trauma and parental child abuse. **Methods** Following PRISMA guidelines, 4645 publications were identified through a systematic search in PubMed, PsycINFO and Cochrane. The final number of publications included was 15.

Results The prevalence of child abuse was found to be consistently higher in populations exposed to traumatic events (prevalence range 36.0–97.5%) compared with non-exposed groups. Parents exposed to trauma were more likely to abuse their children in all studies, and trauma severity, including a PTSD diagnosis in parents, was associated with perpetration of child abuse in most studies. Such associations appeared to be independent of the type of traumatic event. The findings underscore that trauma does not only affect the individual, but also the family.

Conclusions Parental trauma seems to be associated with perpetration of child abuse within the family. Abusive behavior against children could be a potential trauma reaction, which should be considered in preventive strategies aimed at reducing harm in traumatized families.

Keywords Trauma · PTSD · Intergenerational transmission · Child abuse · Family violence

Introduction

Child abuse is a global problem, and poor health caused by child abuse forms a substantial portion of the global burden of disease (Runyan et al. 2002). For instance, exposure to child abuse is associated with higher risk of violence, mental illness and substance abuse in the next generation (Hughes et al. 2017). According to the World Health Organization (WHO), child abuse is defined as “...all forms of physical and/or emotional ill-treatment, sexual

abuse, neglect or negligent treatment or commercial or other exploitation, resulting 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” (Runyan et al. 2002). Although socially and legally acceptable parenting practices, such as corporal punishment, differ across cultures, there seems to be a general agreement that child abuse should not be allowed.

Parental trauma has been proposed as a central risk factor for child abuse within the family. Several studies have shown associations between parental trauma and decreased parent–child relationship quality (Samper et al. 2004; Creech and Misca 2017; Dalggaard and Montgomery 2017), indicating that parental trauma is likely to influence the way parents interact with and treat their children. Trauma is an emotional response to severely distressing events, which in severe cases can result in posttraumatic stress disorder (PTSD) (American Psychiatric Association 1994). In a meta-analysis of empirical studies investigating associations between PTSD and intimate relationship problems, strong positive associations were found between a person’s PTSD and his/her physical and psychological aggression toward his/her partner (Taft et al. 2011).

This article is part of the special issue “Adolescent transitions”.

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Likewise, a review of military veterans showed robust correlations between PTSD symptomatology and intimate partner violence perpetration (Marshall et al. 2005). Further, parental PTSD leading to offspring trauma-related symptoms (the intergenerational transmission of trauma) is well documented (Montgomery 2011; Sangalang and Vang 2017). A possible explanation for this transmission is that parental violence and neglect may be secondary responses to parental trauma reactions. In a review of the intergenerational trauma in refugee families (Sangalang and Vang 2017) only one of 20 studies identified child abuse as one of the mechanisms linking parental PTSD with PTSD in the offspring (namely Yehuda et al. 2001), and most of the studies primarily focused on the mental health consequences in children living with traumatized parents. In another recent review on refugee families, Timshel et al. (2017) showed that parental trauma experiences were associated with increased risk of family-related violence (broadly defined); however, whether such associations exist in other populations is unknown.

Hence, there is a lack of systematic reviews that directly investigate the possible association between parental trauma and parental child abuse across populations. Therefore, the aim of the current study was to review the empirical evidence of a potential association between parental trauma and parental perpetration of child abuse. The types of parental traumatic events included were not predetermined, and the search comprised both studies including populations suffering from PTSD (a prerequisite of a PTSD diagnosis is exposure to a traumatic event) and studies of populations who are, or have been, living in life contexts characterized by potentially traumatizing events such as war, political violence or natural catastrophes.

Methods

Following the PRISMA guidelines, publications examining the association between parental trauma and parental child abuse were identified through a systematic search in (1) PubMed, PsycINFO and Cochrane; (2) through scanning the references of identified publications; and (3) through searching the authors' own files. We used the respective databases' thesauri when developing the search strategy; however, the definitions of the specific concepts are not the same in the different databases. Thus, search terms were selected for each database which were meaningful in relation to the overall themes in the search profile. (The search strategy is provided in "Appendix 1.") In March 2017, this resulted in 3045 publications in PubMed, 1559 publications in PsycINFO and 39 publications in Cochrane.

The inclusion criteria were as follows: All publications had to be original, published and peer-reviewed articles which included a quantitative effect size regarding the association between parental trauma and parental child abuse in order to fulfill our research aim. Additionally, parental trauma should be the exposure of interest, whereas parental child abuse should be the outcome measure. Parental trauma exposure was defined to occur either during parental childhood or during adulthood, whereas child abuse was defined to be experienced by a child in the age of 0–17 years. No restriction of publication dates was applied. The exclusion criteria were as follows: articles which investigated the reverse causal sequence, i.e., whether child abuse was a predictor of trauma. Articles were also excluded if no empirical investigation was conducted (e.g., reviews).

Selection process: Fig. 1 shows a flowchart of our selection process. The titles of all 4645 publications retrieved from the initial search were read, and those which were clearly unrelated to the association between parental trauma and family-related violence were discarded. The broader concept of *family-related violence* was chosen to ensure that no relevant articles were overlooked. This resulted in 131 potentially relevant publications. The full text of the remaining publications was read, and those which investigated the reverse causation that child abuse lead to trauma or which did not include the specific outcome measure of *parental child abuse* were discarded. This resulted in 14 relevant publications. Additional searches were performed via the references of the selected publications, adding 1 extra publication to the review. The final number of publications included in the review was 15. Relevant data from the publications were extracted in predesigned tables as reported in Tables 1 and 2 and grouped by exposure into four categories based on the available investigated risk groups: general population; natural catastrophe; war/political violence; and refugees. General population was defined as individuals in the background population without exposure to situational or environmental trauma but where some in the group were traumatized due to a known or unknown event. Natural catastrophe was defined as individuals exposed to a major adverse event resulting from natural processes of the Earth. War/political violence was defined as individuals exposed to violent, intergroup, societal-level conflict which occurred between two or more states/nations or between population groups living in the same country. Refugees were defined as individuals who had been granted legal protection in another country.

Subsequently, a quality assessment of the 15 included studies was conducted by two researchers independently using the following criteria: (1) Was the design of the study appropriate for exploring our research question? (1–3

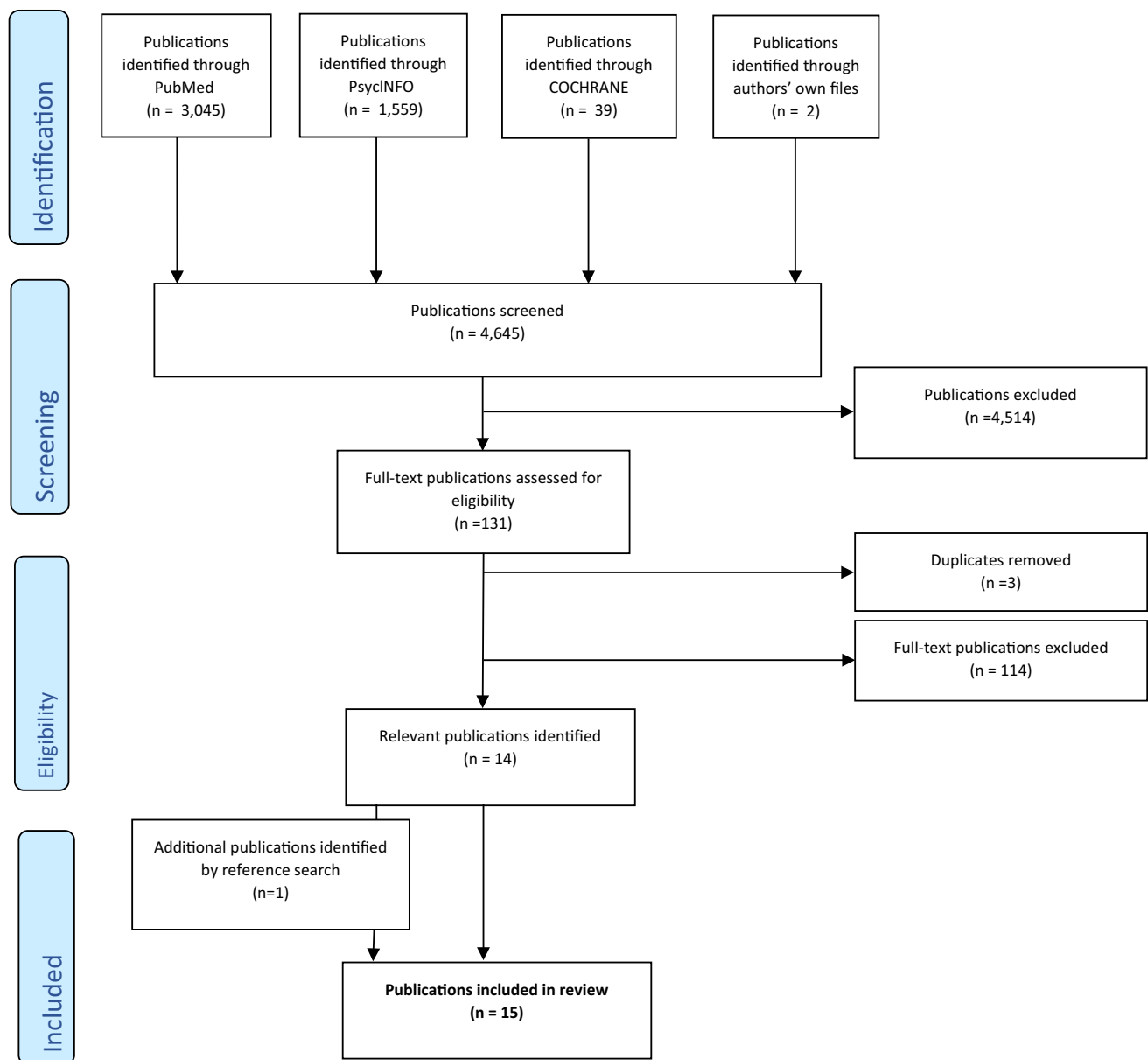


Fig. 1 Flowchart of selection of studies investigating the association between parental trauma and parental perpetration of child abuse, undertaken in March 2017

points); (2) Was the study methods and results sound, assessing: (a) Were the aims and objectives of the research clearly stated? (b) Was the research design clearly specified and appropriate for the aims and objectives of the research? (c) Did the researcher provide a clear account of the process by which their findings were produced? (d) Did the researchers display enough data to support their interpretations and conclusion? (e) Was the method of analysis appropriate and adequately explicated? (1–3 points); (3) Was the study population large (≥ 100) or small < 100 (1–2 points) (Harden and Gough 2012).

For seven of the studies, the two researchers disagreed in their quality assessment, mainly regarding quality of

exposure measurements and risk of report bias, with score differences of 1 point in six studies and 2 points in one study. In these cases, all three researchers read the studies and discussed the quality of the study in question until consensus was obtained and an overall quality assessment congruence of the included study was ensured. The results of the quality assessment are depicted in Table 2. Studies obtaining 3–4 points were considered of “low” quality, studies obtaining 5–6 points were considered of “medium” quality, and studies obtaining 7–8 points were considered of “high” quality for this review. No studies of low quality were found. The studies with the highest scores were highlighted in the data synthesis, whereas the studies with

Table 1 Description of the included studies: country, study population, size, exposure type and methodological characteristics ($N = 15$)

	Number of studies	%
Country		
The USA	5	33
The Netherlands	2	13
China	1	7
Sri Lanka	2	13
Palestine	2	13
Croatia	1	7
Uganda	1	7
Rwanda	1	7
Study population		
General population	3	20
Natural catastrophe	1	7
War/political violence	8	53
Refugees	3	20
Number of persons included		
≥ 1000	5	33
100–500	8	53
< 100	2	13
Exposure		
Genocide	3	20
Refugee	1	7
War	6	40
Political violence	1	7
Tsunami/flood	2	13
Sexual or physical abuse of parent	1	7
No information on type of exposure	2	13
Methodological characteristics		
Study design		
Cross-sectional	11	73
Case-control	4	27
Data source		
Survey	5	33
Interviews	10	67
Adjustment		
Age	7	47
Sex	9	60
Socioeconomic status	9	60
Educational level	5	33
Employment status	1	7
Family composition/marital status	6	40
Family size	3	20
Ethnicity/race	4	27
Type of residential area	5	33
Religion	1	7

the lowest scores were given less consideration in the interpretation of data.

Results

A description of the 15 included studies is listed in Table 1. The majority of the studies were conducted in the USA ($n = 5$), followed by the Netherlands ($n = 2$), Sri Lanka ($n = 2$), and Palestine ($n = 2$), and single studies were carried out in China, Croatia, Uganda and Rwanda, respectively. Most of the studies were carried out among persons subjected to war/political violence ($n = 8$), but also persons in the general population ($n = 3$), refugees ($n = 3$), as well as persons who had experienced a natural catastrophe ($n = 1$) were studied. The study population was exposed to war ($n = 6$), genocide ($n = 3$), tsunami/flood ($n = 2$), refugee status ($n = 1$), political violence ($n = 1$), or the sexual or physical abuse of a parent ($n = 1$). Two of the studies did not include information on the type of exposure. The number of persons included in the studies varied from 92 to 4327, but the majority included 100–500 persons ($n = 8$). The vast majority employed a cross-sectional design ($n = 11$), and four employed a case-control design. Data were gathered through interviews ($n = 10$) and surveys ($n = 5$). Of the 15 studies, seven were considered of high quality and eight were considered of medium quality (Table 2). The quality of the studies was not related to exposure. Of the three studies carried out among the general population, two were of high quality and one of medium, while the study on persons who had experienced a natural catastrophe was of medium quality. Of the eight studies on persons subjected to war/political violence, four were of high quality and 4 were of medium, and of the three studies on refugees, one was of high quality and two were of medium quality.

Prevalence of child abuse perpetrated by parents

Regardless of the quality score and regardless of type of parental trauma, the prevalence of child abuse was found to be consistently higher in populations exposed to traumatic events (prevalence range 36.0–97.5%) compared with non-exposed groups.

In the *general population*, a large nationwide cross-sectional US study of high quality reported that 63.2% of the parents had exerted moderate physical violence and 2.5% had exerted harsh physical violence against their children (Leen-Feldner et al. 2011) (Table 2). In a study population of *mothers with and without a history of child sexual abuse* from low-income neighborhoods in the USA, also of high quality, 15.8% had exerted harsh physical violence toward their children (Banyard et al. 2003). In a

Table 2 Overview of studies of parental trauma and parental posttraumatic stress disorder as risk factors for perpetration of child abuse ($N = 15$)

Author Country	Study design Study population	Exposure	Outcome	Prevalence of child abuse (time frame)	Quality rating [#]	Results
General population						
De Bellis et al. (2001) The USA	Case-control $N = 53$ abusive parents $N = 46$ non- abusive parents	Not specified (parent(s) diagnosed with PTSD)	Family-related child abuse	Not disclosed	(1): 2 (2): 2 (3): 1 Total: 5 = medium	Mothers who had exerted child abuse had a significant higher risk of having PTSD [OR = 34.5 (4.4–269.3)] compared with the control group
Banyard et al. (2003) The USA	Cross-sectional $N = 152$ mothers with and without a history of child sexual abuse	Child sexual abuse	Family-related child abuse	15.8% had exerted harsh physical violence (lifetime)	(1): 2 (2): 3 (3): 2 Total: 7 = high	Trauma level was significantly correlated with using harsh physical violence (adjusted OR = 1.66, $p < .05$)
Leen-Feldner et al. (2011) The USA	Cross-sectional $N = 3931$ adults	Not specified (parent(s) diagnosed with PTSD)	Family-related child abuse	63.2% had exerted moderate physical violence and 2.5% harsh physical violence (lifetime)	(1): 2 (2): 3 (3): 2 Total: 7 = high	Parents with PTSD had greater risk of committing moderate [adjusted OR = 1.38 (1.01–1.88)] and harsh [adjusted OR = 1.93 (1.03–3.62)] physical violence against their children compared with parents without PTSD
Natural catastrophe						
Li et al. (2010) China	Cross-sectional $N = 4327$ children and the parents of 3292 families	Flood	Beatings of the children	24.4% of the children reported that their father and 51.5% that their mother “always beat them”	(1): 3 (2): 1 (3): 2 Total: 6 = medium	54.9% of PTSD-positive and 51.2% of PTSD- negative fathers ($p < .05$) “always beat their children.” No difference between PTSD-positive and PTSD-negative mothers
War/political violence						
Yehuda et al. (2001) The USA	Cross-sectional $N = 51$ adult children of Holocaust survivors and 41 comparison subjects	Holocaust	Emotional abuse and neglect, physical abuse and neglect, and sexual abuse	In offspring of Holocaust survivors, 55% reported emotional abuse (18% in the comparison group), 39% emotional neglect (7% in the comparison group), 31% physical abuse (9% in comparison group), 43% physical neglect (6% in comparison group) and 15% sexual abuse (2% in comparison group)	(1): 3 (2): 2 (3): 1 Total: 6 = medium	Offspring of Holocaust survivors reported more childhood abuse or neglect than comparison participants (offspring: $M = 46.53$; comparison: $M = 33.07$, $p < .0005$) Parental PTSD was associated with a higher incidence of emotional abuse (reported by 66% of offspring with parental PTSD versus 37% of offspring without parental PTSD, $p = .046$), and physical neglect (reported by 56% of offspring with parental PTSD versus 21% of offspring without parental PTSD, $p = .014$), but not emotional neglect, physical abuse or sexual abuse
Haj-Yahia and Abdo-Kaloti (2003) Palestine	Cross-sectional $N = 1185$ Palestinian adolescents	Number of political stressors	Family-related violence	31.4% reported that their father and 33.4% that their mother had slapped, pushed or kicked them at least once during their childhood (37.2% and 31.7%, respectively, during their adolescence), and 6.0% that their father and 7.0% that their mother had strangled or tried to strangle them during childhood (6.4% and 7.7%, respectively, during their adolescence)	(1): 2 (2): 2 (3): 2 Total: 6 = medium	No. of exposures to political stressors correlated significantly with father's psychological aggression and physical violence during childhood ($r = .29$, and $r = .27$, $p < .0001$, respectively) and adolescence ($r = .27$ and $r = .26$, $p < .0001$, respectively)

Table 2 (continued)

Author Country	Study design Study population	Exposure	Outcome	Prevalence of child abuse (time frame)	Quality rating ^a	Results
Catani et al. (2008) Sri Lanka	Cross-sectional <i>N</i> = 296 Tamil children	War-related events	Family-related violence	95.5% of the children reported at least one family violence event type; in 64.2% of the cases, violence in the family was ongoing	(1): 1 (2): 3 (3): 2 Total: 6 = medium	Significant positive correlation between earlier war exposure and scope of family violence (adjusted $\beta = 0.34, p < .001$)
Jakupecic and Ajdukovic (2011) Croatia	Cross-sectional <i>N</i> = 80 with PTSD or MADD (anxiety, depression), <i>N</i> = 100 (controls)	War-related events	Family-related child abuse	Not disclosed	(1): 1 (2): 3 (3): 2 Total: 6 = medium	Fathers with PTSD and parents with MADD had an increased risk of exerting physical violence against their children ($p < .001$) compared to parents without psychological ailments. Mental health status (MADD or PTSD) predicted child physical abuse (adjusted $\beta = 0.24, p < .05$)
Palosaari et al. (2013) Palestine	Cross-sectional <i>N</i> = 240 Palestinian children and their parents	War-related trauma	Child psychological maltreatment	82.1% of the children reported to have been exposed to psychological maltreatment	(1): 2 (2): 3 (3): 2 Total: 7 = high	Significant positive correlation between fathers', but not mothers', war trauma before and after the birth of the child and the severity of child psychological maltreatment ($r = .17$ and $.04$, respectively, $p < .05$)
Rieder and Elbert (2013) Southern Rwanda	Cross-sectional <i>N</i> = 188 parent- child (descendants) pairs	Genocide and war- related events	Family violence	Prevalence rates of child abuse and neglect among descendants were below 10% (lifetime)	(1): 3 (2): 3 (3): 2 Total: 8 = high	Exposure to war and genocide ($\beta = 0.13, p < 0.001$) and parental PTSD symptoms ($\beta = 0.03, p < 0.01$) predicted child abuse in descendants
Saile et al. (2014) Northern Uganda	Cross-sectional <i>N</i> = 368 children <i>N</i> = 365 female guardians <i>N</i> = 304 male guardians	War-related events	Aggressive parenting behaviors toward the child	88% of female guardians and 71% of male guardians used corporal punishment 36% of female guardians and 20% of male guardians reported at least one type of behavior that qualified as physical abuse 18% of female guardians and 9% of male guardians indicated at least one type of severe physical abuse against their child	(1): 3 (2): 3 (3): 2 Total: 8 = high	No independent association between war-related exposure and guardian-reported violence against children. In male guardians, PTSD symptom severity predicted increased levels of child-reported ($\beta = 0.13, p < .05$) and guardian-reported ($\beta = 0.15, p < .05$) abuse. In female guardians, traumatic war exposure ($\beta = 0.14, p < .05$) independently predicted child- reported experiences of abuse
Sriskandarajah et al. (2015) Sri Lanka	Cross-sectional <i>N</i> = 359 children, 122 mothers, 88 fathers	War and Tsunami	Family-related child abuse	83.8% of children reported at least one event of victimization at home, 71.6% reported ongoing violence. 97.5% of fathers and 89.8% of mothers reported perpetration of violence against their children	(1): 3 (2): 3 (3): 2 Total: 8 = high	Number of mass trauma ($\beta = .17, p < .01$) predicted child-reported victimization
Refugees Hinton et al. (2009) The USA	Cross-sectional <i>N</i> = 143 Cambodian treatment- seeking refugees (131 with at least one child)	Genocide	Family-related fits of anger (including physical violence)	45% (49% of those with a child) had had fits of anger toward the child (yelling, throwing things or hitting) (one month)	(1): 1 (2): 2 (3): 2 Total: 5 = medium	66% of patients who, within the last month, reported family-related fits of anger had PTSD symptoms (OR = 3.9, $p < .001$) compared to 33% among patients without fits of anger (analysts not specifically regarding anger toward a child)

Table 2 (continued)

Author Country	Study design Study population	Exposure	Outcome	Prevalence of child abuse (time frame)	Quality rating [#]	Results
Euser et al. (2011) The Netherlands	Case-control N = 562 families maltreating children N = 3089 control group	Refugee	Family-related child maltreatment	Within the lowest educational level, 14.0% among maltreated and 6.8% among non-maltreated children were refugees	(1): 1 (2): 3 (3): 2 Total: 6 = medium	Within the lowest educational level, refugee families had an increased risk of family-related child maltreatment [RR = 2.12 (1.07–4.22)] compared with a Dutch control group This did not apply to labor immigrants
Alink et al. (2013) The Netherlands	Case-control N = 406 families maltreating children N = 1882 control group	War-related events	Family-related child maltreatment	4.6% among maltreated and 1.9% among non- maltreated children were refugees	(1): 2 (2): 3 (3): 2 Total: 7 = high	Using self-reported data (11–17 years old), refugee children were at increased risk of maltreatment (adjusted OR = 2.47, $p < .02$) compared with native Dutch children Within families from a low educational level, children from refugee families were at increased risk of child maltreatment (RR = 6.60, $p < .01$) compared with a control group of Dutch families

[#] (1) Was the design of the study appropriate for exploring our research question (1–3 points); (2) Was the study methods and results sound? (1–3 points); (3) Was the study population large (≥ 100) or small (< 100) (1–2 points)

large Chinese population exposed to a *natural catastrophe* (flooding), 24.4% of the children reported that their father and 51.5% that their mother had “always beaten” them (Li et al. 2010). The study was assessed to be of medium quality.

In the group of children exposed to *war/political violence*, the rates of parental child abuse were likewise high. Moreover, two studies, both of high quality, from Rwanda and Uganda, respectively, two African countries which have suffered from civil war and genocide, showed different rates of parental child abuse. In Rwanda, the estimated prevalence rates of child abuse and the neglect of children by genocide survivors and former prisoners accused of participation in the genocide were below 10% (Rieder and Elbert 2013), and in Uganda, 36% of female guardians and 20% of male guardians reported at least one type of behavior that qualified as physical maltreatment and 18% of female guardians and 9% of male guardians indicated at least one type of severe physical maltreatment against their child (Saile et al. 2014). Very high rates were found in a high-quality study conducted in Sri Lanka: 83.8% of children reported at least one event of victimization at home, 71.6% reported ongoing violence, while 97.5% of fathers and 89.8% of mothers reported perpetration of violence against their children (Sriskandarajah et al. 2015). A high-quality study on Palestinian children, albeit on psychological maltreatment exclusively, showed that 82.1% of the children reported to have been exposed to psychological maltreatment (Palosaari et al. 2013). In another study, of medium quality, among Palestinian adolescents, 31.4% reported that their father and 33.4% that their mother had slapped, pushed or kicked them at least once during their childhood and 37.2 and 31.7%, respectively, during their adolescence. Furthermore, 6.0% reported that their father and 7.0% that their mother had tried to strangle them during childhood, as well as 6.4 and 7.7%, respectively, during their adolescence (Haj-Yahia and Abdo-Kaloti 2003). Among Tamil children exposed to war in Sri Lanka, a study of medium quality found that 95.5% reported at least one family violence event type, and in 64.2% of the cases, violence in the family was ongoing (Catani et al. 2008). Among offspring of Holocaust survivors, a study, also of medium quality, found that 55% reported emotional abuse, 39% emotional neglect, 31% physical abuse, 43% physical neglect and 15% sexual abuse (Yehuda et al. 2001).

Studies from the Netherlands, the first of high quality and the second of medium, showed that 4.6% among maltreated and 1.9% among non-maltreated children were *refugees* (Alink et al. 2013) and within the lowest educational level, 14.0% among maltreated and 6.8% among non-maltreated children were refugees (Euser et al. 2011), thereby showing that refugee children made up a

disproportionately higher portion of maltreated children compared with their relative numbers. Among treatment-seeking Cambodian refugees in the USA, a study of medium quality found that 49% had fits of anger toward their child (yelling, throwing things or hitting) during the last month (Hinton et al. 2009).

Relationship between parental trauma and parental child abuse

Parental trauma was defined differently in the included studies, and both studies including a diagnostic assessment (PTSD) and studies using exposure to potentially traumatic events are included beneath. Overall, parents exposed to trauma were more likely to abuse their children compared with non-exposed parents, and trauma severity, including a PTSD diagnosis in parents, was associated with perpetration of child abuse in most studies. Such associations appeared to be independent of the type of traumatic event as well as the study quality.

The general population and victims of natural catastrophe

In the *general population*, the three American studies, two of high and one of medium quality, showed that PTSD or a history of child sexual abuse in mothers/parents was associated with perpetration of child abuse (De Bellis et al. 2001; Banyard et al. 2003; Leen-Feldner et al. 2011). In a high-quality study, mothers with a history of child sexual abuse were more likely to neglect their child and mothers who reported physical abuse in childhood and domestic violence were more likely to use harsh physical violence than mothers with no such history (Banyard et al. 2003; fathers were not included in this study). Overall, higher levels of trauma exposure in mothers were related to child neglecting behavior, reports of child abuse and more severe physical discipline behaviors (Banyard et al. 2003). Similarly, a large national US study of high quality among adults in the *general population* supported the previous findings in smaller samples, namely that parents with PTSD had a greater risk of committing moderate or harsh physical violence against their children than parents without PTSD (Leen-Feldner et al. 2011). In one study of medium quality, mothers who had exerted child maltreatment had a significant higher risk of having PTSD compared with the control group (De Bellis et al. 2001). In a large Chinese population exposed to flooding, a *natural catastrophe*, fathers with PTSD were more likely to beat their children compared with fathers without PTSD, while no correlation was found between mothers' PTSD and beating their children (Li et al. 2010). The study was of medium quality.

War and/or political stressors

The seven studies among populations exposed to *war or political stressors* (four of high and three of medium quality) all found a relationship between traumatic exposure or PTSD in parents and perpetration of parental child abuse (Yehuda et al. 2001; Haj-Yahia and Abdo-Kaloti 2003; Catani et al. 2008; Rieder and Elbert 2013; Palosaari et al. 2013; Saile et al. 2014; Sriskandarajah et al. 2015). Thus, parental PTSD symptoms, as well as exposure to war and genocide, predicted parental child abuse in the high-quality study from Rwanda (Rieder and Elbert 2013), while PTSD symptom severity predicted increased levels of child-reported and guardian-reported child abuse in the high-quality study from Uganda (Saile et al. 2014). In the high-quality study of Palestinian children, a significant positive correlation between fathers', but not mothers', war trauma and the severity of child psychological maltreatment was found (Palosaari et al. 2013). Similarly, in the high-quality study from Sri Lanka among a population exposed to war and tsunami, the number of mass trauma predicted child-reported victimization (Sriskandarajah et al. 2015). Similar results were found in the three medium-quality studies. Thus, the number of exposures to political stressors among Palestinian fathers was found to correlate significantly with their psychological aggression and physical violence toward their children (Haj-Yahia and Abdo-Kaloti 2003). In a Croatian study, both parents with anxiety and/or depression and fathers with PTSD had an increased risk of exerting physical violence against their children compared with parents without psychological ailments; however, the risk was highest for fathers with PTSD (Jakupčević and Ajduković 2011). Finally, adult offspring of Holocaust survivors reported significantly higher levels of being maltreated as a child than a comparison group of Jewish individuals in the same age range who did not have a parent who was a Holocaust survivor (Yehuda et al. 2001). The higher incidence of emotional abuse and physical neglect was largely attributed to the presence of PTSD in their Holocaust survivor parents, but not for emotional neglect, physical abuse and sexual abuse, where no differences were detected between Holocaust survivor parents with and without PTSD (Yehuda et al. 2001).

Refugees

All three included studies, the first of high and the following two of medium quality, confirmed a relationship between trauma exposure or PTSD in parents and perpetration of child abuse. Based on self-report data from 11- to 17-year-olds in the Netherlands, refugee children were at an increased risk of abuse compared to native Dutch children, even after adjusting for sociodemographic and family

factors (Alink et al. 2013). Similar results were found in another study from the Netherlands, which showed that within the lowest educational level, refugee families had an increased risk of family-related child abuse compared to a Dutch control group. This did not apply to labor immigrants (Euser et al. 2011). A US study revealed that 66% of Cambodian refugees seeking treatment with fits of anger toward a nuclear family member had PTSD symptoms compared to that of 33% among Cambodian refugees seeking treatment without fits of anger (Hinton et al. 2009).

Quality considerations

The quality assessment revealed that the studies varied somewhat, especially in terms of risk of report bias, divergent exposure and lack of external validity in some of them. Despite these problems, there was no difference in the overall conclusion of the observed associations in the studies, and the strength of the associations was apparent in studies of both high and medium quality.

Discussion

Main findings

The prevalence of parental perpetration of child abuse was found to be consistently high in populations exposed to various forms of traumatic events, with no systematic difference between studies of high or medium quality (prevalence range 36.0–97.5%). Three studies of high quality and one of medium distinguished between the severity of parental abuse in trauma-exposed populations and found a prevalence of 2.5–18.0% of harsh physical child abuse. Moreover, trauma severity was associated with parental child abuse in most studies ($\beta = 0.13$ – 0.17 ; OR 1.66 in studies of high quality) and parents diagnosed with PTSD had a greater risk of committing violence against their children than parents without this diagnosis ($\beta = 0.03$ – 0.15 ; OR 1.38–1.93 in studies of high quality). Such associations appeared to be independent of the type of traumatic event.

Our finding that parental trauma is associated with perpetration of child abuse corroborates previous studies in which robust associations between parental trauma exposure and increased risk of violent behavior have been documented. For instance, in a recent systematic review on risk and protective factors associated with family-related violence in refugee families by Timshel et al. (2017) parental trauma was identified as one of the risk factors for family-related violence (including child abuse) among refugee families. In our review, we extend this evidence by showing that parental trauma is also associated with child

abuse in other populations (the general population, victims of natural catastrophe, populations exposed to war/political stressors and refugee populations). However, it should be noted that Timshel et al. had a broad conceptualization of family-related violence (including intimate partner violence, intra-family youth violence and child abuse) making comparisons difficult. Our findings are generally consistent with studies investigating exposure to traumatic events and other types of interpersonal violence, not directed toward the children. Extended research in the general and military populations suggests that trauma exposure (often measured as PTSD) is linked with elevated risk of intimate partner violence (Marshall et al. 2005; Taft et al. 2011). Such associations seem to be more pronounced among military samples than in samples exposed to other traumatic events (Marshall et al. 2005; Taft et al. 2011). Surprisingly, our literature search did not identify any military studies of associations between parental trauma and parental child abuse.

The underlying reasons for the revealed association between parental trauma and risk of perpetration of child abuse have been proposed in other studies. In a review of interpersonal hostility and violence in Vietnam combat veterans with chronic PTSD (Beckham et al. 2000), it was proposed that although anxiety has been a primary focus of PTSD theories, anger and hostility in response to trauma may be as prevalent and detrimental. Anger is likely to be a central feature of posttraumatic responses because it is a core component of the survival response in traumatic situations. Such an explanation is in line with *survival mode theory* suggesting that individuals with PTSD have a lower threshold for perceiving situations as stressful and threatening and that their perception of threat is likely to activate survival mode, including anger and fight reactions (Orth and Wieland 2006). Most of the studies included in our review were cross-sectional, and none used a longitudinal design, making causal inferences between parental trauma and the perpetration of child abuse impossible. This also restrains us from concluding whether experiencing trauma as child or as adult has any differential effect on perpetration of child abuse in the future. Longitudinal studies with representative study populations and repeated measures are greatly needed. A further challenge was the lack of generally accepted methods for defining and assessing child abuse as well as parental trauma. Without standard approaches, various estimates of effect sizes cannot be combined.

Strengths and limitations

The strengths of the present review include the comprehensive and broad search strategy, which contained search terms related to various types of traumatic events and not only PTSD (together with family-related violence) to

ensure the completeness of studies regarding parental child abuse. The quality assessment was conducted by two independent researchers which improved the validity of the assessment. We did not apply any restriction of publication dates which improved the extensiveness of the research results in the area, yet also evidence from the past was included which may be seen as a limitation. Further limitations included the fact that there are no unique MESH terms for traumatic events or family-related violence, which might have caused some studies to be overlooked in the literature search. Studies included in this review were limited to English and Scandinavian languages, and it is possible that important publications in other languages have been excluded.

Implications

This review indicates that parents who have been exposed to traumatic events are at risk of perpetrating child abuse, particularly when the family is living in otherwise stressful life circumstances (e.g., war, poverty, exile). Although this review did not encompass an assessment of how child abuse affects the child, an abundance of studies points to the deleterious effect of such exposure for the child's health and development. Three implications for practice stemming from the results of this review stand out: First, when child abuse is disclosed in a family, parents should be assessed for trauma and, in case they are traumatized, they should be treated concurrent with the treatment of their child. Second, when working with traumatized people, irrespectively of the kind of trauma suffered, questions regarding the possibility of child abuse should be asked and preventive and curative measures taken. Trauma does not only affect the exposed individual, but the whole family, and curative and preventative measures should therefore always target both children and parents. Third, initiatives aiming at reducing stress arising from the environments, in which the potentially traumatized families live, should be taken early on, e.g., in the form of financial or material support, educational activities for adults and children and establishing of emotional support groups.

Conclusion

This review found an overall increased risk of child abuse among parents who had themselves been exposed to a range of potentially traumatizing events, such as sexual abuse, natural catastrophe, war or political violence, compared with non-exposed parents. Furthermore, parents diagnosed with PTSD had a greater risk of committing violence against their children than parents without PTSD. Such associations appear to be independent of the type of traumatic event. Parental perpetration of child abuse could

be a potential trauma reaction, which should be considered in rehabilitative as well as preventive strategies aimed at reducing harm in traumatized families.

Compliance with ethical standards

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

Appendix 1

The search strategies for the databases were as follows:

The **PubMed** search strategy was based on: (Refugees [MeSH Terms] OR emigration and immigration [MeSH Terms] OR emigrants and immigrants [MeSH Terms] OR prisoners of war [MeSH Terms] OR veterans OR stress disorders, post traumatic [MeSH Terms] OR stress disorder, traumatic [MeSH Terms] OR psychological trauma [MeSH Terms]) AND (domestic violence [MeSH Terms] OR child abuse [MeSH Terms]), whereas the **PsycINFO** search strategy was based on: (su[political asylum] OR su[emotional trauma OR refugees] OR su[seeking asylum OR posttraumatic stress disorder] OR su[post-traumatic stress OR immigration] OR su[prisoners of war OR military veterans] OR su[human migration] AND (su[domestic violence] OR su[child abuse])), applying the following limitations: only publications published in English, Danish, Swedish or Norwegian, and for the PsycINFO search, the publications additionally had to concern children aged 0-18 years. The **Cochrane** search strategy was based on: (domestic violence OR child abuse OR child maltreatment), and no language or age limit restrictions were applied.

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