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Correlates of grief-related disorders and mental health outcomes among adult refugees exposed to trauma and bereavement: A systematic review and future research directions

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ABSTRACT

Background: With conflict driving millions of refugees away from their homes worldwide, there has been an increase in interest in the field of refugee trauma. However, while trauma and bereavement interlink, prior studies have focused on trauma and its related disorders (PTSD) and predictive factors. This paper reviewed up-to-date literature on the prevalence rates of prolonged grief disorder (PGD), its comorbidities, and associated risk factors among adult refugees.

Method: We systematically reviewed the literature using five databases (PsycINFO, PsycARTICLES, Psychology and Behavioral Sciences Collection, Academic Search Elite, and PubMed). The process of study selection was designed according to PRISMA guidelines.

Results: The initial search generated 126 articles, of which 12 met the inclusion criteria. The pooled prevalence of PGD was 33.2% (95% CI: 15.2–54.2%). Being an older refugee, traumatic and multiple losses implying the death of first-degree relatives appeared to be consistent risk factors for PGD, combined PTSD/PGD, depression, idioms of distress, and functional impairment. PGD, PTSD, and PTSD/PGD intersect on PTSD-intrusions and painful memories.

Limitations: All included studies adopted a cross-sectional design, thus limiting the understanding of causal pathways.

Conclusions: Our findings showed that the high prevalence of PGD and related comorbidities were influenced by the load of traumatic circumstances surrounding the death(s). The findings shed light on the current proposed grief-related diagnostic criteria. Psychopathological and transcultural aspects are discussed, and we provide concrete recommendations for improvements to future research in this field.

1. Introduction

Although the fields of trauma and bereavement are connected (Green, 2000; Figley et al., 1997; Raphael, 1997; Regehr and Sussman, 2004; Stroebe et al., 2001), research on psychopathology among immigrants and refugees has mainly emphasized trauma, its aftermath (posttraumatic stress disorder [PTSD], depression, anxiety) and its contributing factors. Much of the research has demonstrated that refugees are at high risk for PTSD, with Fazel et al. (2005) estimating this risk to be 10 times higher for adult refugees resettled in Western countries compared to an age-matched general population. This heightened risk is associated with multiple traumatic events, including

acts of violence, threats of death, disappearance or loss of loved ones, witnessing death, and postmigration stressors (Aoun et al., 2018; Chen et al., 2017; Knipscheer et al., 2015; Tufan et al., 2013). Notably, Tufan et al. (2013) demonstrated that suffering from torture and from the death of significant others due to violence highly predicted PTSD in asylum seekers and refugees in Istanbul, Turkey. Trauma and bereavement are not mutually exclusive but often coincide among immigrants and refugees (Claycomb et al., 2016; Heus et al., 2017; Regehr and Sussman, 2004).

Findings from literature reviews (Chan et al., 2016; Siriwardhana et al., 2014; Xu, 2017) have shown that a majority of refugees recover or demonstrate resilience from exposure to trauma and

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multiple deaths. Family and community support, feelings of belonging to the same community, supportive relationships, and religious beliefs may enhance personal resilience capacities and coping responses, which, in turn, may predict better mental health and posttraumatic growth. However, an unknown proportion of refugees may be at risk for chronic or pathological grief and may experience clinically significant difficulties in adjusting to the death of loved ones. In addition, risk and vulnerability factors associated with pathological grief remain relatively unknown across the literature on bereaved refugee populations. The current review sought to update the empirical knowledge on this issue with critical regard to the present conceptualization of pathological grief.

Formerly known as 'traumatic grief' or 'complicated grief', pathological grief has recently been conceptualized as a distinct mental disorder. This pathological condition has been introduced in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as a provisional diagnostic category called "Persistent Complex Bereavement Disorder" (PCBD; [American Psychiatric Association \[APA\], 2013](#)). Additionally, the World Health Organization (2018) has moved toward a similar diagnostic category in the 11th edition of the International Classification of Diseases (ICD-11), which is called "Prolonged Grief Disorder" (PGD). The two grief-related disorders (PCBD and PGD) involve maladaptive grief reactions such as separation distress (e.g., intense yearning and longing for the deceased) and reactive painful and uncontrollable emotions (e.g., bitterness or anger, numbness) ([Boelen and Smid, 2017](#); [Maciejewski et al., 2016](#); [Maciejewski and Prigerson, 2017](#)).

Beyond their semantic nuances, both grief diagnostic constructs may diverge in their predictive and concurrent validity. In a recent factor-analytic study, [Boelen et al. \(2018\)](#) found that meeting PCBD criteria was associated with higher levels of depression and total PTSD symptoms than meeting PGD criteria, particularly PTSD-avoidance and PTSD-hyperarousal (but not PTSD-intrusions) one year after the death of a loved one. The fact that PCBD symptoms emerged as unrelated to PTSD-intrusions seems less surprising considering that the study sample predominantly comprised individuals who had lost a loved one due to natural causes of death (86.7%) among the general community. Seemingly, PTSD-intrusions wear off quicker among those bereaving natural deaths than among those bereaving violent deaths. The latter type of deaths is frequently related to distressing reminders. An alternative explanation is that mourners mobilize efforts to avoid intrusive thoughts and images or any external reminders linked to the lost person. For instance, in their study of war-bereaved Bosnian adolescents, [Claycomb et al. \(2016\)](#) reported a strong correlation between PCBD symptoms and PTSD-avoidance. It remains unclear whether pathological grief (PCBD in particular, as currently conceptualized) is essentially distinct from PTSD, or whether it combines pathological grief and PTSD, as well as how both converge and interfere with each other. Nonetheless, these findings challenged the conceptualization of both diagnostic constructs and their competing criteria sets. It could be asked, in line with [Lane and Tribe \(2014\)](#); see also [Bacqué, 2006](#)), whether grief reactions among traumatically bereaved populations should fall within the normative framework of trauma or within pathological grief.

The Multidimensional Grief Theory (MGT) could posit as a suitable theoretical framework for examining boundaries between responses to bereavement and responses to trauma. It has been framed as a developmental lifespan theory of bereavement-related risk and resilience factors ([Kaplow et al., 2013, 2014](#); [Layne et al., 2017a](#)). It relies on the recently proposed DSM-5 PCBD model and conceptually bridges item responses to bereavement and trauma in more detail. In fact, the PCBD is intended to be multidimensional by capturing separation distress, reactive distress including circumstance-related distress, and disruption in personal and social identity. Its diagnostic criteria, compared to those currently proposed by PGD which prioritize flexibility for clinical utility and international applicability ([Killikelly and Maercker, 2017](#);

[Killikelly et al., 2018](#)), include one item regarding distressing preoccupation with the circumstances of the death. It also incorporates a Traumatic Bereavement Specifier (TBS), which is endorsed if the death occurred under violent or traumatic circumstances (i.e., homicide, suicide) or by generating distress in response to loss reminders (vivid thoughts, images, or feelings related to traumatic features of the death).

In accordance with the MGT, whether these clinical categories are conceptually distinct may relate to different causal precursors (e.g., sociodemographic risk factors, death-related circumstances), causal consequences (e.g., functional impairment or developmental progression), and primary mediators and moderators (e.g., trauma and loss reminders, secondary stressors and adversities, cultural norms) ([Kaplow et al., 2013, 2014](#); [Layne et al., 2017a](#)). Furthermore, to explain how posttraumatic stress symptoms can interfere with adaptive grieving and mourning, the MGT proposes a variety of potential mechanisms of interference. These include: (1) interference by reexperiencing posttraumatic stress symptoms through remembering and reminiscing, (2) cognitive and/or behavioral avoidance, (3) functional impairment that impedes efforts to carry on the legacy of the deceased, and (4) interference with the ability to find meaning in death. Likewise, many grief reaction mechanisms may interfere with recovery from posttraumatic stress reactions: (1) inability to accept the reality of the death, (2) avoidance of loss reminders interfere with confronting the reality of death, (3) survivor's guilt or stigma connected to the manner of death interferes with processing its traumatic circumstances, (4) existential crises precipitated by the loss may induce demoralization, nihilism, and motivation to recover, (5) intense sorrow, loneliness and withdrawal provoked by the loss, (6) stress evoked by secondary adversities (e.g., community and family disruption) and loss reminders ([Layne et al., 2017a](#)).

There is mounting evidence stemming from non-systematic reviews, although based on general community-based samples, that traumatic deaths heighten the risk for persistent post-bereavement distress, depression, and PTSD, often concomitantly ([Hibberd et al., 2010](#); [Kristensen et al., 2012](#)). Beyond the TBS related to PCBD, the MGT proposes considering the role played by the cause of death ([Kaplow et al., 2013, 2014](#); [Layne et al., 2017a](#)), which potentially contains traumatogenic elements capable of evoking circumstance-related grief reactions, PTSD, or both ([Kaplow et al., 2014](#)). These considerations warrant further examination, especially among bereaved refugee populations, given that pathological grief has recently gained consensus as a distinct clinical entity. Generally, death(s) can occur cumulatively with traumatic events in the homeland before or during forced displacement into the host country. A study by [Claycomb et al. \(2016\)](#) showed that Bosnian adolescents who had experienced cumulative grief following the deaths of loved ones due to the Bosnian civil war and deaths not related to the war scored higher on PCBD, PTSD, and depression measures than a matched group who struggled solely with either war-related deaths or non-war-related deaths. Prior research has suggested that maladaptive grief reactions may interfere or overlap with PTSD ([Green, 2000](#); [Nakajima et al., 2012](#); [Neria and Litz, 2004](#); [Nickerson et al., 2014](#); [Regehr and Sussman, 2004](#)). According to some researchers (e.g., [Armour, 2006](#); [Layne et al., 2017a](#)), the complex interrelation of trauma reactions and grief may delay recovery.

Given that bereaved immigrants and refugees endure many death-related experiences, they constitute an ideal sample to explore relations between prolonged grief reactions, posttraumatic stress reactions, and other comorbidities. For our analyses, the term(s) "refugees" or "immigrants and refugees" refer to immigrants displaced outside their home countries (versus internally displaced persons) – disconnected from their cultural groups. This definition includes asylum seekers as defined in 1951 by the Geneva Convention relating to the status of refugees. We specifically focused on bereaved adult immigrants and refugees because PCBD and PGD clinical criteria were conceptually rooted in adult samples. Moreover, bereavement research on children

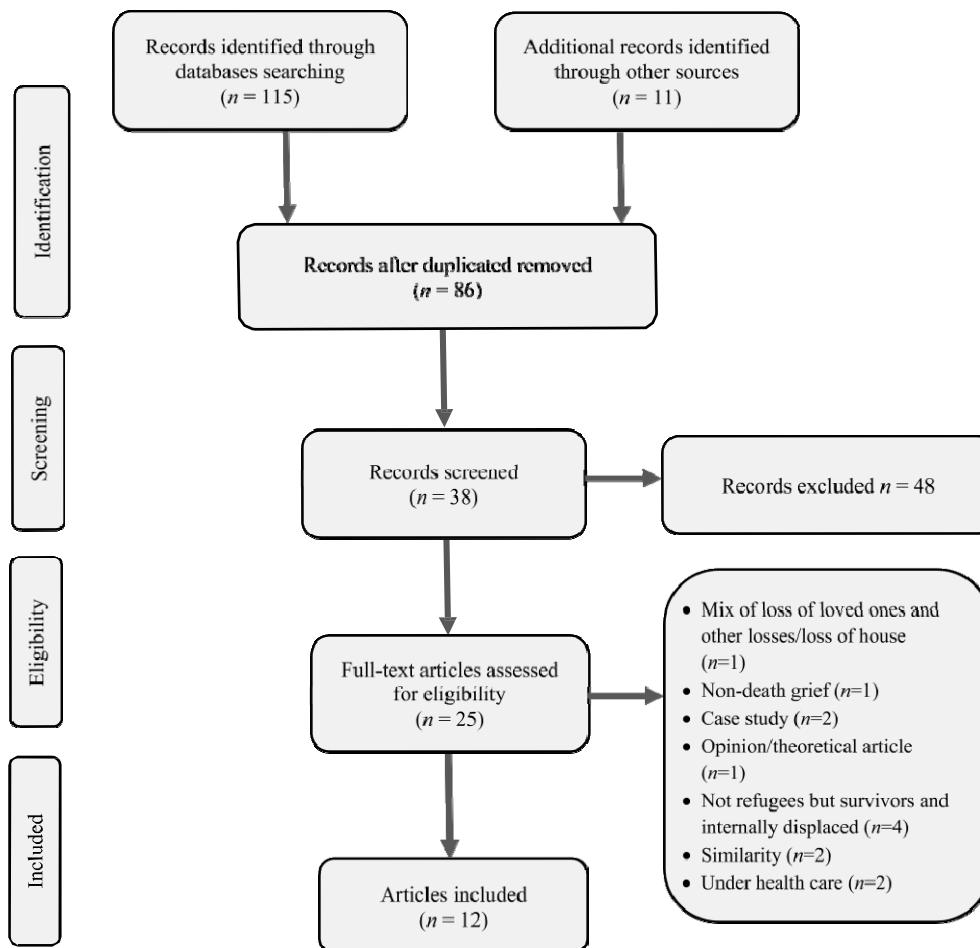


Fig. 1. PRISMA flow diagram for the selection process of included studies.

and adolescents involves important developmental considerations that are not examined in this review. Thus, advancing the phenomenological understanding of this issue may contribute to elucidating the complex associations between bereavement and trauma. By doing so, future theory building studies may better explain the (causal) risk factors associated with grief-related disorder(s), as well as mechanisms that interfere with adaptive grieving following the death of a loved one (Kaplow et al., 2013, 2014; Layne et al., 2017a). Bereaved immigrants and refugees also serve as ideal populations for understanding how cultural and religious norms shape certain aspects of PCBD symptom manifestation (Smid et al., 2018). Finally, we believe that in the face of armed conflicts, disasters, climate change, and millions of refugees being driven away from their homes worldwide, the topic of trauma and bereavement/grief merits increased clinical attention. Hence, refugees varied cultural backgrounds must be kept in mind when considering cultural variability in adjusting to trauma and loss, specifically among those with presumed trauma or grief-related disorders (Eisenbruch, 1990, 1991; Rosenblatt, 2007; Smid et al., 2018).

Globally, the present review attempted to clarify two major questions surrounding the nature, breadth, and main features of the current grief diagnosis construct (PCBD and PGD). The first question we addressed was: What are the estimated prevalence rates, comorbid conditions and features of the grief disorder (referred to as complicated grief, PCBD and PGD) among bereaved refugees? Accordingly, the purpose of this review was to estimate the pooled prevalence of grief disorders and to examine its consequences and primary correlates (including comorbidities). The secondary purpose sought to understand how grief disorder and PTSD symptoms intersect or interfere with each other. The second question was: Beyond variations in the definition and

operationalization of grief disorder, what relevant causal risk factors and protective factors are associated with grief disorder and comorbidities? To answer this question, we reviewed diverse socio-demographic and bereavement-related risk factors and protective factors associated with grief disorder and mental health related outcomes.

2. Methods

2.1. Data sources and search strategy

Five electronic databases (PsycINFO, PsycARTICLES, Psychology and Behavioral Sciences Collection, Academic Search Elite, and PubMed) were systematically searched to identify potentially relevant articles. We used a combination of keywords with Boolean operators, all of which relied on narrower criteria ([grief OR bereav* OR mourn* OR loss OR widow*] OR [trauma*, posttraumatic stress] AND [asylum seeker or refugee or immigra* or migra*] AND [health OR well-being OR disorder OR quality of life OR distress* OR depress* OR anxiety OR somati*]). The terms trauma* and posttraumatic stress were included in our search syntax as we presumed that grief phenomena are often studied separately in trauma research. We also searched Google Scholar and explored reference lists manually to find additional suitable articles not identified by our search algorithm.

2.2. Inclusion and exclusion criteria

The eligibility criteria included quantitative studies published in peer-reviewed journals without language restrictions. The studies had to survey adult bereaved immigrants, refugees, or asylum seekers and

addressed any type of death regarding a relationship to the deceased, whether the death occurred in the homeland, during displacement/migration, or in the resettlement country. Included studies also had to use an assessment tool of grief symptoms or at least address co-occurrence/comorbid conditions such as PTSD, depression, and anxiety.

We excluded articles targeting internally displaced persons (IDP) because, as stated earlier, these individuals generally maintain direct bonds with their home country. The second reason related to homogeneity analysis; a meta-analysis by Porter and Haslam (2005) reported a substantially lower magnitude of psychological distress among IDP than among refugees. Moreover, studies that focused on child and adolescent refugees were not included. Studies on grief non-related to death, such as cultural bereavement or migratory grief were also excluded, as were studies that pertained to ambiguous loss related to missing close persons, as the grieving process may not occur until the reality of the death becomes evident (e.g., Heeke, Stammel, & Knaevelsrud, 2015; Lenferink et al., 2017). Studies on treatment outcomes or on intervention or prevention programs that included our target population were also excluded. Finally, case studies, theoretical reflections, opinion-based articles, and abstracts were excluded. The final search was run in August 2018.

2.3. Study selection and data extraction

The study selection process was designed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009, see Fig. 1). Data were extracted from each included study as follows: a) basic information of a study: name of the first author, year of publication, sample size, study design, data collection methods; b) demographic characteristics: participants sex, mean age or range, participants country of origin, host country, mean length of stay; c) information about death and trauma: mean time passed since the death of a loved one, relationship to the deceased person, cause or specific context of the death (including traumatic events surrounding the death); d) outcome variables: grief reactions, post-traumatic stress reactions, anxiety, depression, somatic complaints; and e) relevant results in line with the purposes of this review.

2.4. Quality assessment

Two investigators (CKK and JMC) independently evaluated eligible papers. When discrepancies occurred, they adopted a consensus principle and if necessary, consulted a third reviewer (AB). Table 1 provides characteristics relating to the quality of the studies selected for the review, using the Newcastle-Ottawa Scale (NOS) (Wells et al., 2011). Due to the cross-sectional design used by the studies reviewed, the NOS was somewhat modified. The total score of the NOS rating ranged from 0 to 12 and covered three domains: the selection and sampling (3 points), outcomes assessment (4 points), and results reporting (5 points). By following Landis and Koch's (1977) recommendations (< 0.00 = poor; $0.00-0.20$ = slight; $0.21-0.40$ = fair; $0.41-0.60$ = moderate; $0.61-0.80$ = substantial; and $0.81-1.00$ = almost perfect), we interpreted the kappa coefficient value for inter-rater agreement for coding study quality as substantial ($k = 0.76$; $ES = 0.14$).

2.5. Synthesis of results

First, an overview of the main characteristics of the studies reviewed is provided. Next, individual studies that reported the prevalence rate of PGD were stratified. Then, the pooled prevalence estimate with a 95% confidence interval (CI) of PGD was calculated using random effects meta-analysis of proportions through statistical software MedCalc Version 19.1 (2019). Heterogeneity was assessed using I^2 statistics, a measure of the proportion of variation (Higgins et al., 2003). A value of approximately 0 suggests homogeneity, whereas values of 25–50%, 50–75% and 75–100% represent low, medium and

large heterogeneity, respectively (Higgins et al., 2003). Meta-analyses were also performed on correlates that were measured in at least two studies; Pearson's correlation coefficient r was used as a measure of effect size (Borenstein et al., 2009).

For the remaining analyses, the heterogeneous constituents (e.g., types of variables, small number of studies per variable and per outcome, missing data) led us to adopt a descriptive narrative synthesis (Cooper, 1998; Whitemore and Knafl, 2005). Therefore, the main results extracted from each study are categorized and summarized in light of the MGT premises, which framed the review objectives.

3. Results

Fig. 1 shows a PRISMA flow diagram of the article selection process. The initial search generated 126 potentially relevant papers. After removing duplicates, the search yielded 86 records. An additional 49 articles that did not satisfy the inclusion criteria at the abstract level were removed. When two or more papers used the same sample, we included those that presented relevant results to this review. Finally, 12 studies met the inclusion criteria.

3.1. Description of study characteristics

Table 2 provides the characteristics and main results of each study in detail. The included studies were published between 1998 and 2018, thus spanning two decades of research.

3.1.1. Country of origin and sample

Four studies were conducted in the U.S, three in Australia, two in Papua New Guinea and two in the Netherlands, one in France and Belgium, respectively. All studies investigated immigrant and refugee samples from non-Western developing countries. The total of all the samples combined was of 2439, with a mean size of 203.3 (range: 74 to 486). Females represented 51.5% of the overall sample and age ranged from 18 to 88. In five samples, participants had attended secondary school or higher education, more specifically college or university. In two samples, the mean number of years of education exceeded 10.

3.1.2. Bereavement-related characteristics

Across seven studies, the time span since bereavement(s) varied considerably in average, ranging from less than 12 months to 28.9 years. Most of the deaths studied occurred during the Cambodian Pol Pot Genocide, the Bosnian and Kosovo civil wars and focused on public murders or executions, acts of torture, persecutions, extra-judicial detention, starvation or diseases. Five studies reported multiple losses (Caspi et al., 1998; Hengst et al., 2018; Hinton et al., 2013a, 2013b; Tay et al., 2018). Deaths of grandparents or family members were reported in five studies, deaths of friends, colleagues or parents in four studies, deaths of children and siblings in three studies, and deaths of spouses in one study.

3.1.3. Assessments

All studies used a cross-sectional design, two of which used a comparative cross-sectional design (Caspi et al., 1998; Morina et al., 2011). Ten studies assessed grief reactions by using different versions of grief construct measures, which induced inconsistencies in terminology: Inventory of Complicated Grief (ICG; Prigerson et al., 1995), Prolonged Grief-13 (PG-13; Prigerson et al., 2009), items derived from the DSM-5 PCBD and the ICD-11 PGD, and Core Bereavement Items (CBI; Burnett et al., 1997). Eleven studies assessed PTSD symptoms, 8 depression and suicide risk, 3 anxiety and 2 somatic syndromes and guilt-related grief. Seven studies assessed causal consequences of grief, including functional impairment/disability, general health and quality of life.

Table 1

Quality appraisal of the 12 included studies.

Criteria	Caspi et al. (1998)	Craig et al. (2008)	Hengst et al. (2018)	Hinton et al. (2013a)	Hinton et al. (2013b)	Kokou- Kpolou et al. (2017)	Momartin et al. (2004)	Morina et al. (2011)	Nickerson et al. (2011)	Nickerson et al. (2014)	Tay et al. (2016)	Tay et al. (2018)
A. Selection and sampling												
A.1. Truly (random sampling) or somewhat (non-random sampling) representative of the average in the target population	2	2	2	1	1	0	1	1	1	1	2	2
A.2. The sampling method is described - Inclusion and exclusion criteria are stated	1	1	1	0	1	1	1	1	1	1	1	1
B. Outcomes assessment												
B.1. Valid instruments used	2	2	2	–	2	2	2	2	2	2	2	2
B.2. Psychometric proprieties are provided and sufficient	0	0	1	0	0	1	0	1	1	0	1	1
B.3. Outcome assessment is multi-informant	1	1	1	1	1	0	1	1	1	1	1	1
C. Results reporting												
C.1. Adequate characteristics of study participants (e.g., demographic, clinical, social) are reported	1	1	1	1	1	1	1	1	1	1	1	1
C.2. Adequate statistical analyses for addressing hypotheses	1	1	1	1	1	1	0	1	1	1	1	1
C.3. The statistical test used is clearly described, including confidence intervals and the probability level (<i>p</i> value).	0	1	1	0	1	1	1	1	1	1	1	1
C.4. Number of individuals at each stage of the study are provided; number of participants with missing data are reported for each variable of interest	1	1	1	1	1	1	1	1	1	1	1	1
C.5. Possible confounders are examined and taken into account in the reporting of results	0	0	1	0	0	0	0	1	0	1	1	1

Note: A1 was rated 2 when it was a random sampling and 1 when it was non-random sampling. B1 was rated 2 when the study used validated measures.

Table 2

Description of the 12 included studies characteristics.

Authors (Years)	Participants' country of origin	Host country; Mean length of stay	Sample size (n)	Study design and data collection	Participants' sex	Mean age (\pm SD) or range (years)	Relationship to deceased person	Context, manner or type of death (1) and Traumatic events exposure (2)	Mean time since loss	Outcomes variables	Summary of main findings
Caspi et al. (1998)	Cambodia	USA (Massachusetts) 7 years	161	Comparative CSS, Random Sample, Face-to-face interview	63.4%F, 36.6% M	46.39	Child (43.5%, up to 6 children)	Not all deaths, but some during Khmer Rouge. Starvation, murder, disease, death at birth (1) NR (2)	NR	PTSD, depression, anxiety, general health, self-perceived health, somatic and emotional symptoms (culture-dependent depressive state), functioning and functional impairment	<ul style="list-style-type: none"> ○ No association between loss of child and psychiatric symptoms (PTSD, depression, anxiety). ○ Significant group differences regarding self-perceived health, culture-dependent depressive state, somatic symptoms (poor vision, bodily pain, numbness, poor appetite). ○ Relatively small differences between both groups in the performance of actual daily and social activities. ○ Parents whose children died were somewhat more inclined to visit the temple.
Craig et al. (2008)	Bosnia	U.S. 9 (6–12) years	126	CSS, Random sample, Self-reported questionnaire	56% F, 44% M	42	NR	Deaths during Bosnian civil war (1) Been threatened to be killed by stranger, experiencing a natural disaster, living in war zone (2)	NR	PTSD, CG, anxiety, depression, and GMH	<ul style="list-style-type: none"> ○ 54% met diagnostic criteria of CG. ○ Significant differences in level of CG symptoms according to gender and age. ○ CG positively associated to PTSD, depression and anxiety, negatively associated with well-being and GMH. ○ By adjusting for gender, age, and race, CG added to the prediction of GMH whereas addition of PTSD symptoms to the equation did reliably improve R².
Hengst et al. (2018)	Iraq	Netherlands 20 months	294	CSS Nonrandom sample Face-to-face interview	35.4%F, 64.6% M	35.4 \pm 12.8	Family member (87.6%), friend (49.5%), child (8.1%)	Deaths caused by violence and combat, unnatural deaths (1) Lack of nutrition, experiencing a natural disaster, exhausting during the flight (2)	NR	PTSD, MDD, anxiety, Quality of life, disabilities	<ul style="list-style-type: none"> ○ Traumatic losses directly affect disability. ○ After controlling for demographics, traumatic events and secondary stress (e.g., long asylum procedure, postmigration stressors), traumatic events and multiple losses have significant effects on all outcome variables. ○ Unnatural and unexpected loss of child seemed to be the highest predictor of all outcomes variables. ○ Female sex independently increased the risk for developing PTSD, MDD, and anxiety.
Hinton et al. (2013a)	Cambodia	USA (Massachusetts) NR	100	CSS Nonrandom sample Face-to-	65% F, 35% M	54.2 \pm 7.5	Mean of 1.7 parents (\pm 0.5), 2.1 siblings (\pm 1.9), 0.8	69% of the index losses occurred during the Pol Pot Genocide: starvation, execution, illness (1) NR (2)	28.9 \pm 11.9	Bereavement Questionnaire, Somatic symptoms (e.g., DSM-IV panic attack	<ul style="list-style-type: none"> ○ 76% had pained recall of a deceased person; the person most frequently recalled in the last month ($M = 5.1$) was a parent, followed by sibling, child.

(continued on next page)

Table 2 (continued)

Authors (Years)	Participants' country of origin	Host country; Mean length of stay	Sample size (n)	Study design and data collection	Participants' sex	Mean age (± SD) or range (years)	Relationship to deceased person	Context, manner or type of death (1) and Traumatic events exposure (2)	Mean time since loss	Outcomes variables	Summary of main findings
				face interview			children (± 1.4)			symptoms), PTSD	<ul style="list-style-type: none"> ○ Severity of pained recall of deceased highly correlated to severity of PTSD. ○ Pained recall group were more preoccupied by spiritual status related to the rebirth of the deceased; they reported highly upsetting dreams in the last month, more crying episodes lasting 11 mins., and multiple somatic symptoms, including palpitations, tinnitus, and headache; 70% attributed distress and somatic distress triggered by pained recall to <i>khyâl</i> attack.
Hinton et al.- (2013b)	Cambodia	USA (Massachusetts) NR	100	CSS Nonrandom sample Face-to-face interview	65% F, 35% M	54.2 ± 7.5	Parent (46%), sibling (29%), child (15%).		28.9 ± 11.9	PGD, self-perceived severity of grief-related distress, PTSD	<ul style="list-style-type: none"> ○ 8% met criteria for a diagnosis of PGD. ○ Of those with PGD, 25% were male. ○ Bitter over loss (46%) and trouble accepting loss (32%) were pronounced PGD symptoms. ○ 59% reported grief-related functional impairment. ○ PTSD symptoms significantly predicted grief-related distress. ○ PGD symptoms significantly predicted grief-related distress over and above the variance explained by PTSD symptoms. ○ Rebirth concerns more than avoidance of reminders were significantly related to PGD severity.
Kokou-Kpolou et al.- (2017)	Togo	France and Belgium 11.47 ± 7.82	74	CSS, Nonrandom sample, Self-reported questionnaire	37.8% F, 62.2% M	37.12 ± 11.03	Parent (46%), grandparent (24.3%), member of extended family (17.6%), sibling (12.2%)	66.2% of unexpected death (1) NR (2)	47.01 ± 3-4.76 months	CG Guilt feeling	<ul style="list-style-type: none"> ○ 41.9% met diagnostic criteria of CG. ○ Being eldest sibling, unemployed, and having lower level of education were associated with high levels of CG symptoms. ○ Having refugee status, length of stay ≥ 10 years, and relationship to the deceased were also associated with higher levels of CG symptoms. ○ Participation in mourning rituals marginally explained low level of CG symptoms but significantly related to less guilt feeling.
Momartin et al.- (2004)	Bosnia	Australia >3 years of stay for 92%	126	CSS, Nonrandom sample, Face-to-	61% F, 39% M	18–88	Secondary-degree relatives (52%), friend or	Deaths during Bosnian civil war: starvation, torture, public murder (1) Human right violation, Other traumatic losses (2)	2–7 years (traumatic events)	PTSD, acute grief (CBI), Depression	<ul style="list-style-type: none"> ○ No associations between grief and demographics (age, gender, having children, employment status, education level, length of

(continued on next page)

Table 2 (continued)

Authors (Years)	Participants' country of origin	Host country; Mean length of stay	Sample size (n)	Study design and data collection	Participants' sex	Mean age (± SD) or range (years)	Relationship to deceased person	Context, manner or type of death (1) and Traumatic events exposure (2)	Mean time since loss	Outcomes variables	Summary of main findings
				face interview			colleague (25%), sibling (18%)				stay) were found, except for widowhood caused by war. ○ No relation between grief and PTSD other than a low-order relation with PTSD intrusion dimension. ○ Strong positive relation between acute grief symptoms and depression. ○ Traumatic loss was a specific determinant of acute grief symptoms (odds ratio: 2.1–6.0) and depression.
Morina et al.- (2011)	Kosovo Albania	Netherlands NR	179	Comparative CSS Random sample Face-to-face interview	58.10% F, 41.90% M	20.3 ± 3.65	Father (100%)	Death related to Kosovo war (1) Forced evacuation under violent threat, lack of nutrition and shelter, forced separation from family members (2)	Nearly 10 years	PTSD, MDE, PGD, general health distress, somatic complaints, severity of suicide risk	○ Prevalence rates were: 34.6% for PGD, 39.7% for PTSD, 22.3% for MDE, and 8.9% for comorbid diagnoses of the 3 disorders. ○ Gender-risk factors only for general health distress, and somatic complaints. ○ War-related loss was a significant predictor of MDE, PTSD, and Panic Disorder. ○ PGD predicted severity of suicide risk, general health distress, and somatic complaints over and above socio-demographic and war-related variables as well as PTSD and MDE.
Nickerson et al.- (2011)	Iraqi Mandaean community	Australia 4.7 ± 4.3	315 experienced a loss (n = 247, 78.4%)	CSS Nonrandom sample Face-to-face interview	52.5% F, 47.5% M.	37.7 ± 14.7	Family member or close person	Persecution, nearly 40% murder of family members and friends (1) Detention and abuse expose, lack of nutrition ... (2)	NR	PTSD, depression, CG, psychological and physical difficulties.	○ Loss was directly associated with grief symptoms. ○ Grief symptoms influenced the path from loss to depression. ○ Grief symptoms impacted the paths from loss to PTSD at both individual and family levels.
Nickerson et al.- (2014)	Iraqi Mandaean community	Australia 4.31 ± 4.25	248	CSS Nonrandom sample Face-to-face interview	52% F, 48% M	38.31 ± 14.53	Family member or friend (48.39%)	Unclear, but a lot of traumatic losses (1) Detention and abuse expose, lack of nutrition ... (2)	NR	PTSD, PGD, depression	○ Combined PTSD/PGD class were more likely in females and refugees who have experienced more types of trauma (detention, abuse) and traumatic loss. ○ PGD class compared to resilient class, were more likely in older refugees who also experienced more types of trauma (detention, abuse) and those who met greater adaptation difficulties.
Tay et al.- (2016)	West Papua	Papua New Guinea since the 1980s	230	CSS- Nonrandom sample Face-to-face interview	40.5% F, 59.5% M	37 ± 9.80	Family member, close friend	A lot of traumatic losses due to persecution, torture, extra-judicial imprisonment (1) Forced to live in poor conditions, disappearance of family members, witnessing strangers tortured ... (2)	≤ 12 months	CG (PCBD + PGD), ADAPT	○ No association between PGD and age and sex. ○ Traumatic loss and feelings of injustice (a factor of ADATP) were associated with PGD and its subdomains of yearning/ preoccupation; shock/disbelief;

(continued on next page)

Table 2 (continued)

Authors (Years)	Participants' country of origin	Host country; Mean length of stay	Sample size (n)	Study design and data collection	Participants' sex	Mean age (\pm SD) or range (years)	Relationship to deceased person	Context, manner or type of death (1) and Traumatic events exposure (2)	Mean time since loss	Outcomes variables	Summary of main findings
Tay et al. (2018)	West Papua	Papua New Guinea 15.6 \pm 0.48 (for 43.1%)	486	CSS- Nonrandom sample Face-to-face interview	44.1% F, 55.9% M	35.8 \pm 0.65	Family member and/or loved one or more loss (es)		≤ 12 months	Complicated bereavement, PTSD symptoms, postmigration living difficulties, ADAPT	anger/negative appraisal; and estrangement from others/social impairment <ul style="list-style-type: none"> ○ No association between PGD and sociodemographic factors (age, gender, employment status, marital status). ○ Disrupted interpersonal bonds and networks was the only significant predictor for complicated bereavement. ○ Traumatic loss events, disrupted interpersonal bonds and networks, and disruption in roles and identities predicted combined posttraumatic bereavement (PGD/PTSD).

Note: F = female; M = male; CSS = cross-sectional study; SD (\pm) = standard deviation; NR = not reported; CG = complicated grief; PCBD = persistent complex bereavement disorder – cf. DSM-5; PGD = prolonged grief disorder – cf. forthcoming ICD-11; CBI = core bereavement items; GMH = general mental health; MDD = major depression disorder; MDE = major depression episode; PTSD = post-traumatic stress disorder; ADAPT = adaptation and Development after Persecution and Trauma.

3.1.4. Methodological quality of studies

The methodological quality of the included studies was assessed based on the NOS. The average quality of the included studies was of 9.47 ($SD = 2.06$, range: 5–12). Three studies scored above the 75th percentile and five, under the median. Five studies used random sampling techniques. Nine studies (75%) used face-to-face interviews and three (25%) used self-report questionnaires. Almost all studies employed reliable measures that underwent forward and back translation to the local language(s), and 50% reported sufficient psychometric properties of the measures used. In half of the studies, possible confounders such as time passed since bereavement, relationship to the deceased, cause of death, and length of stay in the resettlement country were not examined or controlled for in statistical approaches.

3.2. Estimated prevalence of prolonged grief disorder

Four studies were eligible for a meta-analysis on the prevalence of PGD (Craig et al., 2008; Hinton et al., 2013b; Kokou-Kpolou et al., 2017; Morina et al., 2011). The pooled prevalence estimate using a random effect model was of 33.2% (95% CI: 15.2–54.2%), with a high degree of inconsistency ($I^2 = 95.48\%$, $Q = 66.42$, $df = 3$, $p < 0.0001$).

3.3. Causal consequences of prolonged grief disorder

PGD was negatively associated with well-being and general mental health (Craig et al., 2008). After controlling for demographics, PGD significantly predicted general mental distress, somatic complaints, grief-related functional impairment, severity of suicide risk over and above PTSD, and/or major depression episodes (Craig et al., 2008; Hinton et al., 2013b; Morina et al., 2011). Using multilevel path analysis, Nickerson et al.'s (2011) study on Mandaean refugees, which grouped participants at both individual and family levels, supported the above-mentioned results; however, at the family level, PGD accounted for 64% of the variance in mental health variables, whereas PTSD accounted for 46% of the variance. In contrast, at the individual level, PGD scores predicted variance in mental health variables ($R^2 = .19$) less so than PTSD symptoms ($R^2 = .33$).

3.4. Primary correlates/comorbid conditions

Based on three studies (Craig et al., 2008; Momartin et al., 2004; Nickerson et al., 2011), we found significant association between PGD and PTSD ($r = 0.47$, $p = 0.041$, 95% CI: 0.02–0.76) and between PGD and depression ($r = 0.52$, $p < 0.01$, 95% CI: 0.34–0.65), with large heterogeneity across studies ($I^2 = 96.74\%$, $Q = 61.41$, $df = 2$, $p < 0.0001$, and $I^2 = 82.7\%$, $Q = 11.56$, $df = 2$, $p = 0.003$, respectively). In one study, PGD was also associated with anxiety (Craig et al., 2008). Using latent class analysis (LCA) followed by multinomial logistic regressions, Tay et al. (2018) found that disrupted interpersonal bonds and confusion about one's role and identity, respectively, were associated with PTSD/PGD. Nickerson et al. (2014) found that almost all PGD items (e.g., longing or yearning, difficulty accepting the death of a loved one, difficulty trusting others, difficulty moving on, bitterness, numbing, emptiness, feeling jumpy) were endorsed in PTSD/PGD, but not in PTSD and in PGD. Conversely, only PTSD-items related to intrusive memories were endorsed in PTSD/PGD, PTSD, and PGD, whereas PTSD-avoidance symptoms (avoidant thoughts and activities) and most PTSD-numbing symptoms (loss of interest, feeling detached, and having a sense of foreshortened future) were significant predictors of PTSD. In both studies (Nickerson et al., 2014; Tay et al., 2018), PTSD affected approximately 10% of bereaved individuals. Using a regression analysis, Hinton et al. (2013b) found that 38% of the variance in PTSD severity was due to a single item on recalling pain regarding the deceased among Cambodian refugees. Recalling pain most frequently concerned the rebirth of the deceased parent and induced crying episodes lasting approximately 11 min in the last month accompanied by

palpitations, tinnitus, and headaches (Hinton et al., 2013a). Additionally, functional impairment (59%) was a common severe bereavement-related symptom (Hinton et al., 2013a, 2013b). Similarly, Kokou-Kpolou et al. (2017) found that refugees scored higher on every ICG item and differed significantly from non-refugee immigrants in avoiding reminders of the deceased, functional impairment, but also in experiencing subsequent difficulty in accepting the death and emptiness.

3.5. Sociodemographic and causal risk factors

3.5.1. Sociodemographic risk factors

Gender. Pooling the estimates from 6 of 7 studies examining sex-related risk factors for PGD (Craig et al., 2008; Hinton et al., 2013b; Kokou-Kpolou et al., 2017; Morina et al., 2011; Nickerson et al., 2014; Tay et al., 2018), the results of the meta-analysis showed no significant association ($r = 0.08$, *ns*). However, females were at higher risk for PTSD/PGD (Nickerson et al., 2014), PTSD, depressive and anxiety symptoms, general health distress and somatic complaints (Morina et al., 2011; Hengst et al., 2018).

Age. Three out of 6 studies found that older refugees were more likely to exhibit severe prolonged grief reactions (Craig et al., 2008; Nickerson et al., 2014) or disability (Hengst et al., 2018).

Education. Only one study revealed that immigrants and refugees who had attended university reported fewer grief symptoms (Kokou-Kpolou et al., 2017). Nevertheless, higher education seemed to be a protective factor for PTSD, depression, and anxiety (Craig et al., 2008).

Other sociodemographics. A study by Kokou-Kpolou et al. (2017) found that immigrants and refugees who were the eldest siblings, married or in a common-law union, and unemployed were more at risk for increased PGD symptoms. Also, an immigration status associated with constraints regarding refugee status, and staying over 10 years in the host country were found to increase PGD severity (Kokou-Kpolou et al., 2017).

3.5.2. Bereavement and trauma risk factors

3.5.2.1. Relationship to the deceased. In four studies that examined the impact of the relationship to the deceased, the death of first-degree relatives (parent, child) was found to have a moderate to high effect on PGD (Kokou-Kpolou et al., 2017) and comorbidities (Hengst et al., 2018; Morina et al., 2011). In contrast, Caspi et al. (1998) found no association between loss of a child and PTSD, depression, and anxiety, but they discovered a significant association with self-perceived health, cultural-dependent depressive state (e.g., "a deep worrying or sadness not visible to others"), and somatic symptoms (e.g., poor vision, bodily pain, numbness).

3.5.2.2. Traumatic and multiple deaths, and trauma events. Four studies revealed that traumatic deaths (e.g., war-related death of one's father) predicted PGD (Momartin et al., 2004; Tay et al., 2015), PTSD/PGD (Nickerson et al., 2014), and disability (Hengst et al., 2018). In a sample of Bosnian Muslim refugees, Momartin et al. (2004) reported significant correlations that were moderate in strength between CBI related to distressing images and thoughts, traumatic losses, and human right violations, respectively. However, these correlations did not encompass "acute separation". Three studies reported significant associations between traumatic events (detention, abuse) and PGD (Nickerson et al., 2014), PTSD/PGD (Nickerson et al., 2014; Tay et al., 2018), and PTSD (Tay et al., 2018). Morina et al. (2011) reported that bereaved refugees (youth) whose fathers were killed during the Kosovo war presented major depression episodes (MDE), combined MDE/PTSD, and combined MDE/anxiety. In addition, Hengst et al. (2018) found that both multiple deaths and exposure to traumatic events are risk factors which significantly explain PTSD, depression, anxiety, disability, and worse quality of life after adjusting for demographics and secondary stressors. Secondary stressors, mainly

long asylum procedures and postmigration stressors emerged as consistent predictors of PTSD.

3.6. Indirect effects and moderators

Two studies highlighted the role played by secondary stressors and adversities in increasing post-traumatic stress and grief distress. By performing a pathway analysis, Tay et al. (2015) identified persisting worries about the family (e.g., about loss and separation from family, about the wellbeing of family members) among west Papuan refugees as exerting an indirect effect on the path from traumatic losses to PTSD. Persisting worries may result in family disruption and in medical illnesses among family members resettled in different communities and/or left behind in their home country, which raised feelings of injustice among Tay et al.'s sample (2015). Likewise, Hengst et al. (2018) found that witnessing the death of family members exerted a significant effect on disability.

Moreover, without explicitly stating moderating roles, four studies addressed culturally specific factors that may affect grief processes among bereaved immigrants and refugees. Hinton et al. (2013a, 2013b) found that 70% of those suffering from painful memories of the deceased attributed these symptoms to *khyâl* attack (a cultural explanatory model of somatic symptoms), while those who were preoccupied by concerns that the deceased had not yet been reborn in the afterlife had painful and upsetting dreams about the deceased in the last month. They also highlighted that concerns about rebirth status were highly correlated with PGD severity. In Caspi et al.'s study (1998), bereaved Cambodian refugee parents who lost their children expressed an increased need for engagement in spiritual practices by frequently visiting the temple. Kokou-Kpolou et al. (2017) found that 64.9% of bereaved immigrants and refugees performed cultural rituals related to death or mourning; this participation was associated with decreased grief reaction severity, but with a small effect. Some studies implicitly mentioned that some bereaved refugees were opposed to performing these rituals (Hinton et al., 2013a; Tay et al., 2015).

4. Discussion

4.1. Summary of the main findings

In this review, pooled prevalence, primary correlates, and risk factors of grief disorder(s) were investigated among bereaved adult refugees. Table 2 presents all the studies that have been included and disvalued in this review, as well as their main findings. The pooled prevalence of PGD using a random effect model was estimated around 33.2% (95% CI: 15.2–54.2%). In line with prior research in non-refugee populations (e.g., Boelen, 2013; Boelen and Prigerson, 2007), PGD co-occurred with PTSD, depression, and anxiety. PGD and PTSD/PGD intersected with PTSD-intrusions and painful memories. Although they overlapped, PGD independently predicted greater variance of health and functional impairments, demonstrating the incremental validity of PGD. The most consistent risk factors associated with PGD and PTSD/PGD were being an older refugee and experiencing trauma and multiple deaths involving first-degree relatives. Although requiring further research for confirmation, witnessing the death of family members and persistent worries about loss and separation from family were found to play an indirect effect on traumatic losses, PTSD and disability, respectively. Similarly, taking into account the limited number of studies, the role of sociodemographic variables such as education, sibling order, employment, marital status, immigration status and the length of residence in the host country require further examination.

4.2. General interpretation of the review findings

4.2.1. Prevalence, comorbidities and consequences of PGD

The pooled prevalence of PGD among bereaved refugees was

extremely high. It fell within a range of 14–76% among traumatized bereaved individuals following the death of a loved one caused by a disaster (Kristensen et al., 2012). This demonstrates the psychopathological impact of traumatic and multiple death(s) of close relatives which are experienced by adult immigrants and refugees. Indeed, traumatic and multiple deaths trigger complex patterns of psychological states and feelings, encompassing prolonged grief reactions, and post-traumatic stress reactions, among others. The intersection between these common psychiatric disorders is unsurprising, as these results consistently align with existing bereavement literature (e.g., Boelen, 2013; Boelen and Prigerson, 2007). However, they provide compelling evidence among traumatized bereaved refugees that the PGD construct is distinct from the PTSD one, thus corroborating previous research that has demonstrated the independent contribution of PGD to impaired functioning beyond PTSD and depression (Boelen and van den Bout, 2005; Bonanno et al., 2007; Suij et al., 2012). Hence, the results underscore the pressing need to pay special clinical attention to bereaved refugees confronting cumulative bereavement(s) and traumatic events, as they are more at risk for health and functional impairments.

The current review's findings also shed light on PGD symptoms and comorbid psychosomatic complaints among bereaved refugees. Factors included persistently high levels of somatic symptoms including blurry vision, dizziness, bodily pain, palpitations, numbness, and tinnitus. Reporting such psychosomatic manifestations in non-Western immigrants and refugees is consistent with the abundant literature on cultural variations in expressions of distress, as well as ethnocultural and symbolic systems to that attribute different meanings to distress (Kirmayer and Young, 1998; Kokou-Kpolou et al., 2018). However, one could argue, by considering recent empirical research, that these culture-bound syndromes may not be exclusively rooted in cultural systems (Afari et al., 2014; Escobar & Gureje, 2007). For example, with respect to the recent meta-analysis on a multiethnic sample by Afari et al. (2014), war exposure was the single best predictor of functional somatic syndromes.

4.2.2. Interrelation between PTSD and PGD

There are some compelling findings among studies that used LCA (Nickerson et al., 2014; Tay et al., 2018); they consistently yielded combined PTSD/PGD, which was endorsed by nearly 11% of bereaved refugees. PTSD/PGD captured specific items that encompassed certain DSM-5 PCBD items, such as disrupted interpersonal bonds and networks, and confusion about one's role and identity (disruptions in personal and social identity). In accordance with the MGT, such items evoke existential and identity distress and challenge the effort to find sense to the loss and a renewed sense in one's personal life following the death (Layne et al., 2017a). These results provide further information on PCBD criteria, specifically in relation to separation distress and circumstance-related distress (e.g., preoccupation with the circumstances of the death, preoccupation with the deceased person). As shown in Hinton et al. (2013a, 2013b) studies, intrusive memories expressed through recalling pain were impacted by the traumatic circumstances of the death and by rebirth concerns of the deceased. This aligns with the MGT premises in that circumstance-related distress evokes troubling thoughts and fantasies by focusing on the way the person died (Layne et al., 2017a). Hence, it is of importance to devote a particular attention to the TBS among bereaved refugee populations, as proposed by the DSM-5 when investigating grief-related disorder(s). This seems relevant for differential diagnosis, as the DSM-5 PTSD diagnosis now includes a statement indicating that traumatic experiences involving violent death(s) may result in a significant interaction between problematic bereavement reactions and PTSD (APA, 2013; Layne et al., 2017a). In sum, the DSM-5's PCBD construct appeared to be an advantageously appropriate diagnostic construct for traumatically bereaved populations.

Furthermore, in both studies that used LCA, only one PTSD item on intrusive memories was associated with PGD, PTSD/PGD, and PTSD. In

other terms, trauma and bereavement intersect with intrusive memories. This result empirically supports the first theorized mechanism that PTSD and PCBD interfere with each other (Layne et al., 2017a). Traumatized, bereaved adult refugees may thus be prone to re-experiencing past trauma events through pained memories of the deceased. The results also showed that most PTSD symptoms (e.g., psychological or physiological distress due to reminders, startle reactions, irritability, insomnia, difficulty concentrating) overlay with combined PTSD/PGD symptoms, but not with PGD (Nickerson et al., 2014). Although responses to trauma differ from responses to bereavement in several respects, these findings suggest that for traumatized and bereaved refugees, the memories of their lost loved one(s) tend to become inextricably linked to the memories of the violent causes of the death. They also shed light on preliminary work by Pynoos (1992; see also Layne et al., 2017b) which revealed that bereaved children and youths with posttraumatic stress reactions could focus their mental efforts on the traumatic circumstances surrounding the death, thus inhibiting their capacity to grieve adaptively and adjust to the loss.

4.2.3. Indirect effects of trauma and loss reminders

As conceptualized by the MGT, trauma and loss reminders, as well as secondary stressors play a prominent role as mediators between the death of close relatives which occurred under traumatic circumstances and the adjustment period following the bereavement (Layne et al., 2006, 2017a). This assumption is corroborated by two preliminary findings which emerged from this review. Witnessing the violent death of family members (e.g., public execution) and persistent worries about loss and separation from family were found to exert an indirect effect on the path from traumatic losses to PTSD and disability, respectively. Until further confirmation is provided, these variables may trigger remembering the circumstances surrounding the death(s), which may then prolong distress and increase the risk of disability or functional impairment.

4.3. Risk factors for PGD and comorbidities

4.3.1. Bereavement-related risk factors

The most robust etiologic risk factors found in the present review were multiple and traumatic deaths direct predictive effect on PGD, PTSD/PGD, depression, and disability, which were examined by seven studies and demonstrated by six of them. These findings confirm results from prior non-systematic reviews using general community-based samples that violent deaths following disasters increase the risk for persistent post-bereavement distress, PTSD, and depression, often concomitantly (Hibberd et al., 2010; Kristensen et al., 2012). They also corroborate those of Claycomb et al.'s (2016), which indicate that youth accumulating losses and exposed to both war-related deaths and deaths unrelated to war scored higher on PCBD, PTSD, and depression measures than youth solely bereaved by deaths due to war. Indeed, multiple and cumulative deaths leading to a 'bereavement overload', as called by Neimeyer and Holland (2006), is thought to generate a cascade of intrusive distressing mental images associated with many trauma and loss reminders, which undermines the ability to cope adequately (Layne et al., 2006). We found that study samples that examined multiple and traumatic losses all included the death of at least one family member. Thus, the nature of the relationship to the deceased person and the brutality of the death may cause a destructive break, disabling the capacities to symbolize and recall the loss. Hinton et al. (2013b) showed that refugees not only suffer from complex traumatic bereavement(s) but also from the impossibility of performing prescribed mourning rituals. It is well known that in war contexts, families are often unable to bury their relatives in a dignified manner, sometimes without the body or with mutilated bodies. Enduring such a horrific traumatic death may lead to retaliatory fantasies and cognitive distortions that impede the grieving process. Hence, performing "substitute" symbolic mourning rituals, as found by Kokou-

Kpolou et al. (2017) study, could alleviate grief reactions.

4.3.2. Sociodemographic risk factors

In this review, we found that females might be more at risk for comorbid PTSD/PGD, but not for PGD, implying that the increased vulnerability for females may depend on traumatic events surrounding the bereavement (Hsu et al., 2018). The data also suggested that older refugees were more likely to exhibit elevated grief reactions. Although these data are insufficient to provide evidence on the role of age, it seems that older refugees have experienced multiple traumas, including traumatic deaths and losses, which might undermine their resilience responses. Previous research has often reported that older refugees have greater difficulty adapting to their new social environment, which constitutes an additional source of stress.

Regarding other demographic variables such as education level and employment status, numerous studies have demonstrated their impacts on mental health among refugees (see Hynie, 2017 for review). These variables partially depend on integration policies for refugees in the resettlement countries. Occasionally, refugees are unemployed for many years and the longer they remain in the host country, the more economically impoverished and socially disintegrated they become. According to the MGT, involuntary unemployment, financial hardship, among other possible causes, are sources of secondary stress which complicate efforts to adjust to the loss and exacerbate existential and personal distress. With regard to the length of residence in the host country, in particular, Gimeno-Feliu et al. (2017) demonstrated that risk of multimorbidity is two times higher among foreign-born immigrants residing in Spain for five years or more than among those residing in Spain for less than five years. Kokou-Kpolou et al. (2017) also noted an eldest sibling position as a prominent risk factor for severe grief and feelings of guilt. Eldest sons were particularly affected by bereavement due to the weight of their hierarchy and the enormous expectations placed on them to bury their parent in a dignified manner and to manage parental inheritance. However, information about all selected sociodemographic factors was less consistent and requires further exploration.

5. Future research recommendations

The quality of the reviewed studies (see Table 1) and review findings demonstrate that empirical research in this field is in its early stages. Therefore, this review lays the foundation to improve further empirical research on bereavement and on grief among refugee populations. Building on the reported findings, we discussed the limitations of the current literature and provided concrete recommendations (see the lines below) that will rigorously advance the field.

- **Reporting psychometric properties of measures used.** In the studies reviewed, we found that although great efforts were undertaken in translating measures, four did not provide enough psychometric properties for grief assessment tools and half of the studies did not do so for other outcome measures. We encourage all researchers to systematically report psychometric characteristics (e.g., internal reliability, sampling adequacy) of the measures used so that the readers may assess their psychometric accuracy in relation to non-Western bereaved refugee populations. To provide much-needed momentum to this field, we also encourage the transcultural validation of these measures among these populations.
- **Methodological alignment with DSM-5-PCBD and ICD-11-PGD criteria.** We also found the assessment of PGD to be methodologically heterogeneous across studies with different cutoff criteria. Future research should prioritize a methodological alignment through the use of either the DSM-5-PCBD or ICD-11-PGD assessment tools, or both in a complementary approach (e.g., Traumatic Grief Inventory-Self Report, Boelen et al., 2017, 2019). This could help with avoiding inconsistencies in terminology. For more detailed methodological

issues, refer to the following review conducted by Killikelly et al. (2018), which extensively focuses on the assessment of grief among refugees and post-conflict survivors.

- **Multi-informant assessment of primary correlates.** Given the extremely complex nature of traumatic bereavement symptoms, we encourage using multi-informant assessment, including measures on grief (PCBD or ICD-11-PGD), PTSD, complex PTSD, peri/traumatic dissociation, depression, anxiety, etc. By using appropriate statistical methods, researchers could contribute to delineate the nature, extent, and content validity of the current grief diagnostic constructs (PCBD and PGD).
- **Extending the TBS.** The complexity of grief disorder patterns due to the violent deaths of loved ones and traumatogenic elements should be considered further in future studies. In light of our results, TBS should be extended beyond homicide and suicide deaths. It should also include war deaths, genocide deaths, disaster-related deaths, among others, and the traumatic circumstances surrounding the death(s) (e.g., torture, public execution, agony) when grief-related disorder(s) are investigated. To address this, we suggest to include a set of specific items that could capture the span of circumstance-related distress precipitated by TBS. These items should be defined according to the PCBD criteria.
- **Unpacking traumatic bereavement factors.** Future research should systematically report and analyze all possible factors such as the time since the loss, the relationship to the deceased, the cause of the death(s) and other traumatic events surrounding the death(s). Attention should also be drawn to the length of residence in the host country as a key indicator in evaluating the course of grief reactions over time simultaneously with the adjustment to the host country environment; some studies have found a linear relationship (Kokou-Kpolou et al., 2017) and curvilinear (Tran et al., 2007) associations between this variable and psychological distress among refugee population. Furthermore, as proposed by the MGT (Layne et al., 2017a) and in line with preliminary evidence by Tay et al.'s (2015) study, additional research is needed to explore whether trauma reminders and loss reminders mediate the links between traumatic bereavement(s) and ongoing adjustment among refugees.
- **Exploring culture-related grief beliefs and their meanings.** The format of Western mental health assessments, as outlined above, could be paired with measures relying on 'emic' concepts of distress or idioms of distress. For example, innovative tools such as the "Cultural Assessment of Grief and Grief-Related Psychopathology" proposed by Smid et al. (2018), could help to explore the cultural meaning behind the bereavement(s) refugees faced through semi-structured interviews. According to the MGT, cultural appraisal and meaning should be approached as moderators and mediators in the relationship between traumatic bereavement(s) and psychological adjustment to the loss.
- **Focus on internal and external resources.** The second purpose of this review was to identify the protective and adaptive factors among bereaved refugee populations. However, it is striking to note that almost all the studies did not emphasize these factors. Future studies would benefit the field by investigating variables that may predict better mental health and well-being. As reviewed by some authors (Chan et al., 2016; Siriwardhana et al., 2014), family and community support, feelings of belonging to the same community, supportive relationships, and religious beliefs may enhance personal resilience capacities and coping responses when enduring adverse life events. This prompts a call to direct our efforts in investigating the internal and external resources that protect refugees against the disruptive impact of traumatic and multiple deaths and help them to grieve adaptively.

6. Conclusion

This review included 12 cross-sectional studies yielding moderate

quality criteria. This time-sensitive study has pinpointed causal consequences, primary correlates and risk factors for grief-related disorders among immigrants and refugees who have lost significant others. While empirical research on this topic is in its early stages, this review has demonstrated that PGD, combined PGD and PTSD, depression, and disability form complex psychopathological comorbidities. The DSM-5's PCBD seems to be a potentially good grief construct that accurately captures the broad spectrum of reactions manifested. These comorbidities are impacted by circumstance-related distress in the context of death(s), jointly influenced by ethnocultural belief systems expressed through somatization and idioms of distress, hence the importance of developing intercultural skills in managing such disorders. While demographic factors were mixed, thus needing further investigation, there was a robust trend of traumatic and multiple deaths predicting PGD and worse mental health outcomes. Due to upsurges in migratory fluxes, with conflict driving millions of refugees away from their homes worldwide, this topic will likely draw increasing clinical attention. In this respect, the present literature review has laid solid foundations for future empirical research in this ongoing scholarly field.

Contributions

Drs C.K.K., and C.S.M. conceived the original idea of this review. Dr. C.K.K. designed the study, wrote the manuscript. Drs C.K.K., and J.M.C. independently evaluated the eligible papers. Pr A.B. was the third reviewer. Drs C.S.M. and J.M. provided the advices on discussing the results, contributed to critically revising and proof-reading of the manuscript. Dr. J.M.C. provided critical feedback and helped shape the research. Pr M.F.B. supervised the project, provided many suggestions to and approved the final manuscript.

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