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The development of a caregiver intervention to address child mental health in settings of complex humanitarian emergency: a multi-phase, multi-method approach

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Abstract

Background Effective parenting can mediate the negative impact of complex humanitarian emergencies (CHEs) on child mental health, however many caregivers struggle to parent effectively in these settings. Parenting interventions have robust evidence in many settings, however research supporting their use in CHEs is limited. We describe the development of a caregiver group intervention delivered by non-specialist staff to support child mental health in CHEs.

Methods A multi-phase, multi-method approach was employed: Phase 1: semi-structured interviews, analysed inductively, with specialist mental health staff in CHEs on needs and challenges in providing mental healthcare to children and caregivers. Phase 2: initial intervention development informed by Phase 1 and evidence-based theoretical approaches and psychological therapies. Phase 3: expert review of draft intervention. Phase 4: semi-structured interviews, analysed inductively, with non-specialist staff in Papua New Guinea (PNG) to evaluate relevance, comprehensibility, and applicability of the intervention. Phase 5: cultural adaptation of the intervention prior to implementation in Northern Iraq. Different operational partners and research sites were employed at different phases of development to increase diversity of inputs and support the overall vision of an intervention that addressed common mental health difficulties and underlying factors to support children and caregivers across CHEs.

Results Mental health staff in CHEs identified a significant need for interventions to support parenting and address child mental health needs. A caregiver group intervention was developed consisting of six two-hour sessions, delivered weekly by non-specialist staff, and targeting parent knowledge and skills and parent stress. Expert consultation identified aspects of the intervention to emphasise or simplify, resulting in a refined intervention with ensured clinical quality. Non-specialist staff in PNG confirmed the intervention relevance to a vulnerable population in a humanitarian setting, and the manual was determined suitable for non-specialist facilitators. Mental health literacy, stigma and cultural views (masculinity, family privacy) were identified as challenges to address. A multi-stage method of cultural adaptation in Iraq ensured the clinical and cultural accuracy, relevance, and acceptability of the

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intervention. Initial adaptations to the language and metaphors used in the intervention resulted in high cultural appropriateness during pilot testing. Prioritising the recruitment and engagement of male caregivers is critical.

Conclusions A caregiver intervention to support child mental health in CHEs is available. It's development using multi-method, co-design processes will ensure its relevance and acceptability to target populations. Further research to evaluate the effectiveness and long-term effectiveness of the intervention is warranted.

Keywords Child mental health, Parent, Primary caregiver, Humanitarian, Intervention, Intervention development.

Background

There is robust evidence that the potentially traumatic experiences and ongoing adversity associated with complex humanitarian emergencies (CHEs) have significant direct and indirect negative impact on children's mental health and psychosocial development [1–4]. Parents[1] are centrally placed to mediate the impact of these experiences on the child [5, 6]. The presence of a caring adult to support children process their experiences, foster healthy psychological development, teach effective psychological coping, and cultivate a healthy worldview is protective for mental health outcomes [7–9]. Conversely, parental factors such as absent or negative caregiving can create further risk for children exposed to adversity in CHEs [10].

Many parents in CHEs struggle to provide adequate parenting. A recent systematic review found conflict-exposed parents displayed less warmth and greater harshness towards their children [6] than their non-conflict exposed counterparts. The challenges to parenting are multiple, with changes in the environment (such as living in a refugee camp, poverty, chaos), changes in the child (psychological, behavioural and emotional difficulties) and changes in the parent (psychological, behavioural and emotional difficulties) all contributing to greater demands and complications in parenting [11]. Further, children are often orphaned or separated from parents in CHEs, meaning they may be cared for by non-parent caregivers (including extended family members or neighbours). Non-parent primary caregivers are typically included in research and interventions in CHEs, however research understanding the impact of non-parent caregivers on parenting practices and child mental health in humanitarian settings is lacking. Although research has shown that parenting can be negatively impacted by CHEs [6], research understanding parents experiences, challenges, and needs with respect to parenting in CHEs is sparse. A few studies have shown that parents across diverse settings of CHE, including Syria [11], Gaza [12], and Northern Uganda [13], are concerned about their child's psychosocial development, are uncertain how to

parent in contexts of instability and conflict, and request guidance regarding parenting.

Parenting interventions have robust empirical support and are widely used for a variety of child mental health difficulties in stable, high-income contexts, in low- and middle-income countries (LMIC), and across cultures [14–18]. A recent systematic review conducted by the World Health Organisation (WHO), including 435 randomised controlled trials (RCTs) from 65 countries, found parenting interventions can improve a range of parent, child and family outcomes [19]. A sub-review identified 18 RCTs evaluating parenting interventions in LMIC humanitarian settings, and found parenting interventions in these settings have a significant, albeit modest, effect on increasing positive parenting practices and decreasing negative parenting behaviours [19]. The authors noted a need for more trials examining the effectiveness of parenting interventions for families living in humanitarian settings [19]. They identified a need for trials measuring outcomes beyond parenting, such as child maltreatment, child mental health, and caregiver mental health. Additionally, the low number of trials included in the meta-analyses resulted in low confidence regarding findings. Similarly, a subsequent review of parenting and family interventions in LMICs, including humanitarian settings, found preliminary support for the use of these interventions for child and adolescent mental health and/ or wellbeing in these settings [20]. There were limited studies in humanitarian settings, highlighting a need for more research in these challenging contexts. The core elements of effective parenting and family interventions identified in this review were: caregiver psychoeducation; caregiver coping; accessibility promotion; homework; communication skills; insight building; relationship/rapport building; and differential reinforcement. The results further highlighted the importance of addressing potential mediating factors such as parent distress, communication, and social support in addition to the traditional target of parent knowledge and skills [20].

The unique circumstances of CHEs require consideration when adapting or developing parenting interventions for populations in these settings. Most parenting interventions follow a behavioural model addressing deficits by providing skill and knowledge development. Parenting interventions also commonly target parental stress

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[1] The term parent refers to all primary caregivers of children throughout this manuscript.

through stress reduction and self-care. These approaches must be tailored to the unique needs of populations in CHEs by understanding and addressing the impact that potentially traumatic experiences and ongoing adversity have on parents and children. Additionally, resources are extremely limited in CHEs. A lack of human resources means that mental health services are typically provided by non-specialist staff. Empirical evidence and guideline documents support the employment of non-specialist staff for mental health service delivery in CHEs provided they are supported with adequate resources, training and supervision [21–27]. Unfortunately, significant gaps exist in the availability of evidence-based interventions tailored to CHEs, training opportunities, and expert supervision [28]. Research understanding staff experiences, needs and challenges in providing parenting support and child mental healthcare in CHEs is sparse. A recent review of psychological interventions delivered by non-specialist staff for children and adolescents in LMICs found implementation barriers due to interventions being too complex, facilitators lacking time, and facilitators experiencing distress in intervention delivery [29]. Similar barriers are likely to exist for non-specialist staff in CHEs, and a greater understanding of these challenges would provide valuable guidance to the development of interventions and resources to support non-specialist staff.

A number of caregiver interventions have been implemented and evaluated in CHEs, including universal interventions (such as War Child Holland's 'Caregiver Support Intervention' [30] and International Rescue Committee's 'Parents make the difference' [31]), interventions with limited caregiver involvement often provided as an adjunct to a child level intervention (such as 'Teaching Recover Techniques' [32] and World Health Organisation's 'Early Adolescent Skills for Emotion' [33]), or interventions addressing generic parenting skills without using a trauma-informed therapeutic approach (such as 'Strong Families' [34] and 'Better Parenting Plus' [35]). There exists a gap in indicated caregiver interventions that provide substantial caregiver guidance and support using trauma-informed therapeutic approaches to specifically address the psychological impact of multiple, accumulating adverse experiences in this population.

Our aim was to create an indicated, trauma-informed caregiver intervention to address child mental health needs in settings of CHE that was feasible to implement by non-specialist staff. An integrative, transdiagnostic approach to address common mental health concerns in CHEs was used to support development of an intervention that, following cultural adaptation, could be relevant to diverse CHEs and implementing organisations. To support this, studies informing the development of the CGI were conducted with different operational partners

(MSF-OCA; Femili PNF) in different countries (International; Iraq; PNG). Operational partnerships were formed through the networks of the research team, while field sites were identified by the operational partners based on need and capacity to support research. The initial iteration of the CGI was informed by empirical, nomothetic principles that reflect universal human phenomena [36] relevant to parenting and child mental health in CHEs, as identified in background literature and formative research. As this target population has great cultural and contextual diversity, cultural adaptation is conceptualised as an inherent and integral part of the CGI. Cultural adaptation ensures that the intervention and associated materials are relevant, acceptable, and feasible to implement in each setting, and improves intervention effectiveness [21, 37–41] and sustainability [39–41].

This paper describes the multi-phase, multi-method process of developing the caregiver group intervention (CGI) that addresses the needs of staff and caregivers in CHEs, which could be feasibly delivered by non-specialist staff to support child mental health and psychosocial functioning.

Research questions

The five phases of development described in this paper each addressed a unique research question. Each phase built on the results of previous phases. The phases were conducted across diverse settings (international, Papua New Guinea, Iraq) and with different operational partners to provide diverse perspectives in line with the vision of an intervention that, following cultural adaptation, would be relevant and suitable in different settings and for use by different organisations.

To gain understanding of the needs and challenges experienced in providing mental health services to caregivers and children across CHEs, Phase 1 asked:

1. What are the perspectives of humanitarian mental health staff on the needs and challenges faced by parents and staff with respect to child mental health, parenting, and service provision in CHEs?

Using the results of Phase 1 to inform intervention targets and underlying theoretical framework, in Phase 2 we asked:

2. Can a caregiver intervention tailored to the specific needs of populations in CHEs, and informed by evidence-based theoretical frameworks and psychological therapies be developed?

To ensure the intervention developed in Phase 2 met expert clinical standards and was suitable for CHEs, Phase 3 asked:

3. What are the views of experts in humanitarian and/ or child mental health on the clinical accuracy and suitability of the CGI?

The expert consultation conducted in Phase 3 resulted in a refined intervention, however as the intervention was designed to be delivered by non-specialist staff, in Phase 4 we asked:

4. What are the views of non-specialist staff in a setting of humanitarian need (Papua New Guinea) on the relevance, comprehensibility and potential challenges of the CGI?

Finally, as the CGI was developed for potential use across CHEs an integral part of the CGI is cultural adaptation. In Phase 5 we asked:

5. Can a process of cultural adaptation in a setting of humanitarian need (Al-Abbasi, Northern Iraq) result in a culturally appropriate and relevant iteration of the CGI?

Methods
The multi-phase, multi-method approach used to achieve the research objectives consisted of:

Phase 1: the needs of caregivers and staff
Semi-structured exploratory interviews were conducted with Médecins sans Frontières-Operational Centre Amsterdam (MSF-OCA) international mental health staff to identify the needs and challenges of caregivers and staff regarding child mental health in CHEs. This encompassed: (i) common child experiences and presentations, (ii) difficulties experienced by parents regarding parenting and potential areas for support, and (iii) difficulties experienced by staff in providing mental healthcare to children and caregivers. The interview schedule was developed by the primary researcher (also a Clinical Psychologist with experience working in CHEs) and reviewed by the MSF-OCA Mental Health Advisor for appropriateness and face validity. All participants had recent (Nov 2016 – Nov 2017) experience in the specialist role of Mental Health Activity Manager working across various CHEs. MSF is an international non-government organisation (NGO) providing medical humanitarian aid, including mental healthcare, across a range of countries and contexts [42].

Potential participants were identified by the MSF-OCA Mental Health Advisor and contacted via email with study information. Participation was voluntary and all participants completed an informed consent process. Interviews were conducted by the primary researcher in English using telephone, Skype or WhatsApp. Sample size was determined in line with principles described in the literature as appropriate for qualitative research with focused research aims and a relatively homogenous sample by: (i) ensuring new and rich information regarding the research objective could be achieved, and (ii) pragmatic considerations around access and availability [43]. Qualitative analysis used a reflexive thematic analysis approach [44, 45] using NVivo 12. The analysis was descriptive, focused on the explicit content of the data and the direct views of the participants. The identification of themes was inductive, with the coding frame developed during the analysis and based on the data [45].

Phase 2: initial design of the intervention
Background literature and findings from Phase 1 highlighted the need for a parenting intervention that: (i) was indicated and trauma-informed, (ii) addressed the specific challenges of parenting in CHEs related to changes in the child, the parent and the environment, and (iii) was suitable for implementation by non-specialist staff. This guided the primary researcher draft the initial iteration of the CGI.

Based on a socioecological model of human development and informed by relevant theories of parenting, a conceptual model for the CGI was determined that focused on addressing: (i) parent knowledge and skills, and (ii) parent stress. The focus on these two factors aligns with existing parenting interventions (including those used in CHEs) which typically target one or both of these factors. Background literature and existing parenting interventions also provided guidance regarding core components of effective parenting interventions such as psycho-education, building insight, caregiver support and stress management, communication skills and relationship building. The manifestation of these core components is heavily influenced by the therapeutic approach taken. For example, communication skills in a behavioural management therapy approach focuses on providing firm, clear and calm directions whereas communication in an attachment-based therapy approach focuses on warmth and connection. The psychological therapy approaches selected to inform the CGI were: (i) evidence-based, (ii) addressed presenting difficulties and potential underlying processes as highlighted in Phase 1, (iii) covered core components for parenting interventions as described in background literature, and (iv) were feasible to implement by non-specialist staff in the constraints of CHEs (e.g., brief therapy approaches). An integrative approach [46] was used to combine therapeutic techniques from these psychological therapies that: (i) addressed the presenting difficulties and potential underlying processes described in Phase 1 (based on a transdiagnostic approach and understanding of complex trauma), (ii) targeted the mechanisms of change defined

in the conceptual model (increasing parenting knowledge and skills; reducing parental stress), (iii) were straightforward and suitable for implementation by non-specialist staff.

Additionally, an illustrator developed simple illustrations to accompany key ideas and case examples in the CGI.

Phase 3: Expert consultation
Experts in the areas of child mental health, child trauma, and/or with experience in child mental health in CHEs were consulted to ensure the clinical accuracy and suitability of the newly developed intervention. Potential expert consultants were identified through professional networks of the research team. The expert consultants were provided with a draft (English version) of the CGI manual and asked to provide feedback regarding: (i) the content, including topics that were unnecessary/ unsuitable/ missing, (ii) the structure, including the order and flow of topics/ sessions, (iii) the applicability to CHEs including types of trauma, cross-cultural generalisability, comprehensibility, verbal and visual communication, and (iv) any other feedback. Experts were invited to provide feedback in written or verbal format.

Phase 4: Consultation with non-specialist staff
Semi-structured exploratory interviews were conducted to assess non-specialist staff views on the relevance, comprehensibility and potential challenges of the CGI.

Participants were staff from Femili PNG, a local NGO in Papua New Guinea (PNG). Although it is debatable whether PNG meet strict criteria as a CHE (defined by The Inter-Agency Standing Committee (IASC) as "a singular event or a series of events in a country or region that cause serious disruption to the functioning of a society, resulting in human, material, or environmental losses which exceed the ability of affected people to cope using their own resources" [47, p. 2]), the level of humanitarian need is extremely high due to a range of environmental, health and social challenges [48], high levels of violence and abuse [48–51], and a significant mental healthcare treatment gap [52, 53].

Femili PNG provides case management to parents and children that have experienced family violence, sexual violence and child abuse. Staff are not mental health specialists, however they have extensive experience working with vulnerable families in a setting of humanitarian need. All staff in a service delivery and/or service coordination role were eligible to participate. Contact details for all eligible staff were provided by the Femili PNG Chief Executive Officer (CEO) and Operations Director at each program site (Lae and Port Moresby). Potential participants were contacted by email and provided study information. Participation was voluntary. Participants were

emailed: (i) a summary of the CGI, (ii) the full CGI manual (which was optional to review), and (iii) to arrange an interview time.

Sample size was determined using the approach outlined in methods for Phase 1. Semi-structured interviews were guided by a schedule of questions developed by the primary researcher that were exploratory in nature, and reviewed by the CEO of Femili PNG for appropriateness and face validity. Participants were asked about the relevance, comprehensibility, potential benefits and potential challenges of the CGI. All communication was conducted in English, an official language of PNG that all potential participants were fluent in speaking. Interviews were conducted by the primary researcher using telephone, WhatsApp, or Skype. For participants that provided consent the interviews were audio-recorded and transcribed by the primary researcher. For participants that did not provide consent for audio-recording notes were taken by the primary researcher during the interview. Interview notes included observations and reflections in addition to the content of the interview.

Qualitative analysis of the data was conducted using NVivo 12, and employed a reflexive thematic analysis approach [44, 45]. As this study was applied and practical, the analysis was primarily descriptive and focused on the explicit content of the data, thereby sitting within an essentialist framework [44]. An inductive approach was used to identify themes in relation to each research question and based on the data.

Phase 5: Cultural adaptation
In preparation for implementation of the CGI in Northern Iraq, and to test the methods of cultural adaptation ahead of future research evaluating the CGI, cultural adaptation [54, 55] was conducted in partnership with the MSF-OCA team in Iraq. Northern Iraq was identified by the operational partner (MSF-OCA) as an appropriate study population for implementation and research of the CGI. The humanitarian context in Northern Iraq remains fragile following armed civil conflict which resulted in high levels of population displacement [56]. Impacts on physical and mental wellbeing, poor living standards, and lack of access to basic services [57, 58] have resulted in communities with substantial need for effective guidance regarding parenting to support child mental health.

The content of cultural adaptation was guided by Bernal, Bonilla, and Bellido's framework [59] which proposes eight dimensions to consider: (i) language, (ii) persons, (iii) metaphors, (iv) content, (v) concepts, (vi) goals, (vii) methods, and (viii) context [40, 59]. Although this model has been criticised for overlap between factors and lack of suitability for interventions that are not face-to-face, it provided a straightforward framework for staff, including mostly non-specialist staff, to comprehend and utilise.

More recent models, such as Chu and Leino's [60] framework that distinguishes core and peripheral aspects of psychotherapy or Heim and Kohrt's [61] framework that distinguishes cultural concepts of distress, treatment components and in-session techniques, present more conceptual complexity. The process of cultural adaptation was guided by the four stages of Barrera and Castro's model of cultural adaptation [62]. Stage 1, "Information Gathering", consisted of a literature review encompassing child mental health in Iraq and the Middle East, translation and back translation of materials to Arabic, and initial consultation with the MSF-OCA Iraq team (including national Iraqi and international staff) on the perceived appropriateness of the CGI to the culture and context. MSF-OCA staff reviewed the English and/or Arabic version of the CGI and provided written or verbal feedback on all aspects of cultural suitability via the MSF MHAM. Findings from this stage were integrated into the CGI during Stage 2, "Preliminary Adaptation Design". Stage 3, "Preliminary Adaptation Test", consisted of gathering feedback from group participants and facilitators regarding their experience of the CGI through a process embedded in a pilot study, described elsewhere [63]. Participants were: (i) primary caregivers in Al-Abbasi, Iraq that completed the CGI, and (ii) national Iraqi MSF-OCA staff that facilitated the CGI. Primary caregivers completed a post-intervention questionnaire developed by the primary research for this study that consisted of four quantitative items regarding how helpful and relevant the group had been (rated on a 5-point Likert scale ranging from "not at all" to "a lot"), and three open-ended qualitative questions regarding the participants likes, dislikes, and suggestions regarding the CGI. This questionnaire was translated to Arabic by the MSF-OCA translator and administered verbally by MSF staff (mental health team members, not the group facilitators). Group facilitators completed a written English-version questionnaire developed by the primary researcher for this study that consisted of six quantitative items regarding the helpfulness, relevance, and acceptability of the CGI (rated on a 5-point Likert scale ranging from "not at all" to "a lot"), and four open-ended qualitative questions regarding the group facilitators likes, dislikes, challenges, and suggestions regarding the CGI. Further qualitative data was gathered through summary information provided by the MHAM weekly during the implementation period and covering: (i) feedback that the group facilitators had received from the parents during that week's session, (ii) the group facilitator's observations of parent's interest and participation during that week's session, and (iii) the group facilitators own thoughts regarding the week's session. Findings were incorporated into the CGI during Stage 4, "Adaptation Refinement".

Results

Results of phase 1: the needs of caregivers and staff

A total of nine potential participants were contacted regarding the study, of which eight agreed to participate and completed the informed consent process. All participants consented to the interviews being audio recorded and transcribed. Interviews were conducted by the primary researcher between November 2017 and January 2018, and took between 20 and 45 min each.

Participant demographics

Of the eight participants, seven (87.5%) were female and one male. Participants were from a range of countries: two from Canada, two from Italy, two from Germany, one from France, and one from The Netherlands. Five of the eight (62.5%) participants had worked across multiple CHEs. Across participants, experience covered a range of countries including Iraq, the Democratic Republic of the Congo (DRC), Türkiye, Italy, Indonesia, Greece and Syria. These projects included armed conflict, political violence, post-conflict and natural disaster, as well as acute and protracted CHEs. Additional demographic data (e.g., age) was not collected.

Child experiences and child mental health

The adverse experiences most frequently described by children and parents attending MSF mental health services were armed conflict, displacement, medical conditions (e.g. HIV), malnutrition, and sexual violence. Ongoing stressors included extreme poverty, social isolation, community violence, and family stress (unemployment, living in IDP/ refugee camp). Several participants emphasised the negative impact on children of parent related factors such as parental stress, depression, aggression, substance abuse, the use of harsh discipline, domestic violence and/ or neglect.

> "The main problem was the… always with the kids, it's the parents. The family cohesion… broke apart. That the parents got more violent. So that was the main issue".

High levels of childhood psychological difficulties were described, including anxiety (especially separation anxiety), nocturnal enuresis, agitation, aggression, non-compliance, disruptive behaviour, sleep difficulties, nightmares, and poor concentration. Attachment difficulties, grief, and somatic complaints were also reported. Participants described depressive symptoms as less common.

The concerns, needs and challenges experienced by caregivers

Participants described parent difficulty in understanding and managing their children's emotional and behavioural reactions through CHEs. Participants reported some parents expressing hopelessness, a sense of incompetency, and a loss of positive identity regarding parenting. Parents were described as stressed, socially isolated, and struggling to manage. Changes in the behaviour of some parents, such as becoming withdrawn or violent was reported. Even parents who had previously felt competent in their parenting were described as struggling due to the challenging contexts and changes in their children's behaviour. Some participants described parents as wanting greater support and guidance in how to parent in these contexts.

> *"Listening to the stories and listening to the information suggested to me that parents had no clue how to parent effectively through these challenging times. The situation is different, but they are trying to parent like everything is exactly the same – and it's not".*
> *"Parents would communicate and say – you know, I don't know how to talk to my kids about this... how do I? What do I do here?".*

Participants described community and social support for parents as lacking in many settings, particularly refugee/ IDP camps. Previously available supports had been disrupted or lost. No participants were aware of any community-level supports regarding parenting or child mental health across the settings they had worked.

> *"An artificial community... It's not natural. No. This aspect is something that especially the women they suffer a lot from this. They don't have friends, they don't have the good neighbours. They don't have the family... they are alone. They feel really, really alone".*

The concerns, needs and challenges experienced by staff

Participants identified numerous, significant challenges experienced by staff in providing mental healthcare to children and parents in CHEs. The lack of evidence-based interventions to guide staff in providing parenting support, together with a need for greater staff experience, training and supervision more generally were described. Promisingly, non-specialist staff were described as eager to improve their knowledge and skills about child mental health. Some participants noted their own limited training and experience in the specialist area of child mental health and requested greater guidance.

> *"Counsellors were unaware of the need to counsel children, and they were also unaware of the needs of children. So that was a lack of awareness. There was a real huge desire".*
> *"In all of the three projects that I've been in the request is always we need more training in terms of kids. That is always the request".*
> *"I think for me, children was one of the most challenging parts. As I have not worked with them before. And I think the same count for my whole team".*

Participants also described staff experiencing challenges regarding population access to mental health services. Stigma, low mental health literacy, lack of time, local mistrust of unknown organisations were identified by multiple participants across many settings, while one participant described the inability of females to access services without a male family member present as a significant barrier.

Results of phase 2: initial design of the intervention

Informed by background literature, the findings of Phase 1, and relevant psychological therapeutic approaches an intervention manual was created by the primary researcher to guide non-specialist staff facilitate the CGI.

The conceptual model underlying the CGI

The conceptual model underlying the CGI (Fig. 1) describes how the CGI is proposed to create change in child mental health and psychosocial wellbeing.

The conceptual model was grounded in a socioecological model of human development [64, 65] which recognises that factors across levels of the socioecology influence human development and explains how an intervention delivered to parents can ultimately result in changes in child mental health and psychosocial wellbeing.

In line with existing models of parenting, such as Belsky's Process Model of Parenting [66], Conger's Family Stress Model (FSM) [67], and Murphy's integrative model of parenting in war [68], the conceptual model underlying the CGI highlights the importance of parent stress, parent functioning, and contextual adversity on parenting. This is critical to understanding parenting in CHEs. As depicted in Fig. 1, potentially traumatic experiences and ongoing adversity in CHEs have a direct negative impact on parent stress, psychosocial wellbeing, and mental health as well as on child mental health and psychosocial wellbeing.

The CGI is proposed to have a direct positive impact on: (i) parent stress, psychosocial wellbeing and mental health, and (ii) parent knowledge and skills. These two factors are commonly targeted in parenting interventions, however were also identified in the findings of Phase 1 where MSF staff described high levels of parent stress and distress, alongside a recognised lack of
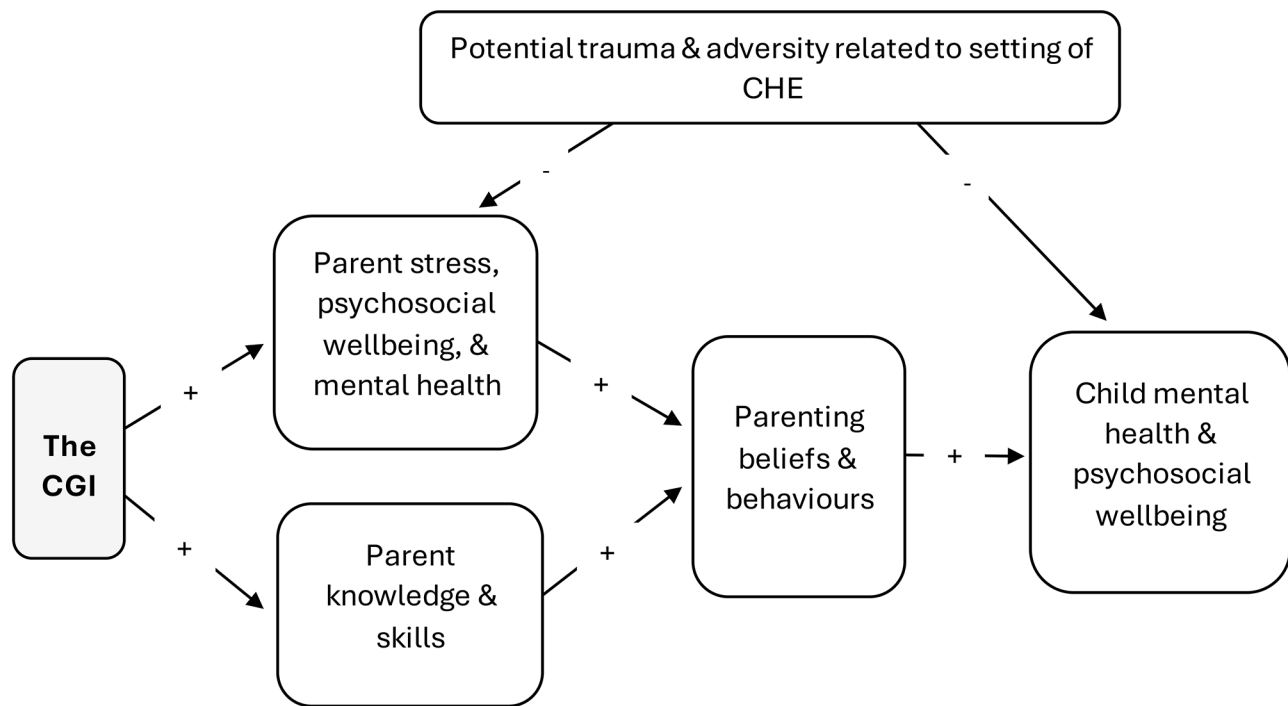
Fig. 1 The conceptual model underlying the CGI with proposed positive (+) and negative (-) impacts

Table 1 Content of the CGI by session

Session	Topic
Session One	Welcome & Introductions; Overview of the group; Group rules; Parent goals; Why is parenting important?; What are traumatic experiences?; Common reactions to traumatic experiences; Child development and traumatic experiences.
Session Two	Looking after yourself: Doing things to refresh; 'Survival brain' & 'learning brain'; Trauma, stress & 'survival brain'; Over-arousal & under-arousal; Helping your child move from 'survival brain' to 'learning brain'.
Session Three	Looking after yourself: Calming your body through your breathing; Safe, caring & consistent parenting; Being aware of your own brain state; Recognising the triggers for your own 'survival brain'.
Session Four	Looking after yourself: Gratitude & meaning; Building a positive relationship with your child; Spending time with your child; Showing interest in your child; Communicating with your child; Playing with your child; Comforting your child.
Session Five	Looking after yourself: Building social connection; Comforting your child – continued; Over-protection & under-protection; Talking to your child about traumatic experiences; Helping children make sense of their experiences.
Session Six	Looking after yourself: Strengths; Discipline; Encouraging good behaviour; Managing difficult behaviour; Review of the group; Highlights; Planning for the future; Congratulations.

knowledge and skill regarding parenting given the challenging circumstances of CHE.

Parent stress, psychosocial wellbeing and mental health are targeted throughout the CGI. Sections entitled 'Looking after yourself' cover evidence-based strategies to reduce psychological and physiological stress (Table 1). The group modality of the CGI, and the encouragement of group interactions (through discussions, activities, and breaks), aim to increase social connection among participants. Further, psychoeducation, building self-awareness, and emotional regulation skills covered in the CGI can impact on parent wellbeing and mental health.

The CGI also aims to have a direct positive impact on parent knowledge and skills, a core focus of many parent interventions [30]. Psychoeducation focuses on

knowledge relevant to parenting in CHEs, such as the impact of potentially traumatic experiences and prolonged adversity on child mental health, common reactions to psychological trauma and prolonged stress, and how the brain reacts to threat. Similarly, skill development focuses on skills most relevant to supporting children who have experienced adversity and potential trauma, including: (i) emotional awareness and regulation, (ii) interpreting and responding to a child's behaviour, (iii) attunement and co-regulation, (iv) parent-child relationship building, (v) communication, and (vi) effective discipline. The CGI encourages the development of parenting skills through a participatory approach that includes group discussions, demonstrations, and role plays.

The conceptual model outlined in Fig. 1 hypothesises that positive changes to parents' beliefs and behaviours result from reduced parental stress and improved parenting knowledge and skills. A variety of beliefs and behaviours may be influenced by the intervention, such as beliefs about the need for/ benefit of harsh discipline, beliefs about the causes of child behaviour, a reduction in harsh discipline, and an increase in positive parent-child interactions. Positive changes in parent beliefs and behaviours influence interactions with children which, when repeated over time, create consistent and caring parenting that supports positive child mental health and psychosocial wellbeing.

Key theoretical frameworks and psychological therapies
A socioecological perspective of child mental health, a 'complex' trauma approach, and a transdiagnostic approach guided the CGI. Further information regarding these key theoretical frameworks, their justification based on empirical literature and Phase 1 findings, and their application in the CGI is provided in Table 2.

Informed by background literature, Phase 1 findings, and the theoretical frameworks outlined in Table 2, key psychological therapeutic approaches were selected to guide the development of the CGI. Therapeutic approaches that addressed the needs identified in Phase 1, targeted important potential underlying processes (e.g., the attachment relationship, self- and co-regulation), and could feasibly be implemented by non-specialist staff in a brief intervention were incorporated into the CGI. The four key psychological therapy approaches that informed

the CGI, their justification, and the specific therapeutic techniques employed are outlined in Table 3.

With the exception of trauma-focused cognitive behavioural therapy (TF-CBT) which has been implemented in the Democratic Republic of the Congo with sexually exploited, war-affected girls and included adjunct parenting sessions [101] most parenting interventions evaluated in CHEs do not explicitly align with a specific therapeutic approach. Rather, descriptions of parent interventions in the literature refer to therapeutic targets such as the parent-child relationship, parent stress, or communication that are targets across many therapies. As such, and particularly given the limited evidence base for parent interventions in CHEs, the selection of these therapies to guide the content of the CGI is based on their broader evidence base and capacity to address the concerns identified in the preliminary phases of this research.

The therapeutic techniques listed in Table 3 are implemented directly with parents during the group sessions. In line with the conceptual model, all therapeutic techniques aim to: (i) reduce parent stress, or (ii) increase parent knowledge and skills. This is proposed to impact on parent beliefs and behaviours, resulting in a child experience of safe, caring and consistent parenting over time. Although some therapeutic techniques (e.g., relaxation exercises, cognitive reappraisal, building self-awareness, communication) may benefit child mental health when directly taught to the child, the CGI does not instruct parents to teach children these skills. Rather, in line with the socioecological model underpinning the CGI, change is predicted to occur through shifts in parenting beliefs and behaviour that result in regular, repeated and

Table 2 Key theoretical frameworks that guided the development of the CGI

Name	Description	Justification	Application
Socio-eco-logical model of child mental health	Mental health is the result of complex, dynamic interactions between processes occurring across levels of the socioecology and across time [69–75], including past trauma and ongoing adversity.	Research into the determinants of child mental health in CHEs provides robust support for a socioecological model of child mental health [10]. Phase 1 findings highlighted the importance of parent and community factors on child mental health outcomes.	The developing child must experience regular, repeated, and enduring interactions that influence healthy growth and development [64] which the CGI targets through parent-child interactions.
Complex trauma	Complex trauma (multiple, chronic, prolonged, severe) adversely impacts all domains of child development (physical, cognitive, emotional, behavioural, interpersonal, psychological) [76–78].	CHEs increase the risk of a child being exposed to multiple, chronic, prolonged and severe trauma [76, 79, 80]. Phase 1 findings described children in CHE as frequently exposed to chronic, multiple, prolonged and severe trauma.	Therapeutic approaches that support children and parents that have experienced complex trauma are prioritised (psychoeducation, self- and co-regulation skills, enhancing the attachment relationship).
Transdi-agnostic approach	The relevance and validity of a diagnostic approach [81, 82] is questionable in cross-cultural, humanitarian settings [42]. Alternatively, the transdiagnostic approach, posits that similar aetiological and maintenance processes underlie many mental health disorders [83].	This approach holds promise for use in CHEs, and recent intervention protocols developed for CHEs (e.g., World Health Organisation's Problem Management Plus) utilise this framework [84–86]. Phase 1 findings described a range of difficulties across children in CHEs that fit better with a transdiagnostic approach reflecting universal underlying psychological processes rather than culturally influenced symptoms and diagnoses.	Potential underlying transdiagnostic processes (e.g., disruption to the attachment relationship; dysregulation of arousal, affect, and behaviour) are common in children presenting to MSF [87] and are targeted in the CGI for potential benefit across a range of presenting difficulties.

Table 3 Key psychological theories and therapies that guided the development of the CGI

Name	Description	Justification	Therapeutic techniques in the CGI
Attachment-based therapy	Attachment theory [88, 89] posits that the connection and interactions between infant and primary caregiver are key to the healthy psychosocial development of the child.	A caregiver's ability to provide attuned reassurance and assist the child make meaning of distressing experiences can be more influential on psychological outcomes than the nature of the adverse experience itself [7, 90].	Psychoeducation; Realistic expectations; Perspective taking; Building empathy; Play; Communication of validation, love and affection; Showing interest in the child.
Cognitive behaviour therapy (CBT)	CBT aims to reduce distress and improve functioning by addressing: (i) maladaptive patterns of thinking and beliefs, and (ii) maladaptive behavioural patterns that serve to cause, exacerbate, or maintain poor mental health.	CBT approaches have a strong evidence-base and have been used extensively and effectively in parenting interventions.	Psychoeducation; Relaxation exercises; Goal setting; Cognitive reappraisal (self-awareness; realistic expectations; helping children make sense of their experiences); Discipline (safe, consistent parenting; positive reinforcement).
Mind-body therapy (MBT)	MBT, based on polyvagal theory (PVT) [91–93], explains how humans react to environments of safety, danger and life-threat. MBT integrates 'top-down' and 'bottom-up' approaches to strengthen bidirectional connection and communication between body, brain, and mind [94, 95].	Ongoing threat lowers a person's threshold for defensive reaction and disrupts the ability to co-regulate [96] resulting in dysregulation of emotion and behaviour, hyper- or hypo-arousal, and maladaptive social behaviours. Co-regulation within the parent-child dyad is critical to optimal neurobiological and psychosocial development of the child [97, 98].	Psychoeducation; Relaxation exercises; Building awareness of one's own physiological and psychological state; Using play, communication, and comfort to facilitate co-regulation. The concepts of survival brain and learning brain [99] reflect neural states described in PVT.
Strengths-based therapy	Strengths-based therapy [100] is guided by core principles and practices that emphasise client involvement and a client-therapist alliance [100]. It can be incorporated into all therapeutic approaches.	This evidence-based approach [100] encourages agency and empowering perspectives, recognises strengths and avoids language or frameworks (e.g. diagnosis) that can reinforce hopelessness, helplessness, or self-blame.	Goal-setting; Use of language and formulations that highlight strengths and hope; Collaborative approach. Facilitators elicit, notice, and highlight the strengths of participants. Facilitators respect and promote parents' knowledge about their own child, family, and experiences.

enduring processes that impact on child development [102].

The CGI

The aim of the CGI is to improve the mental health of children impacted by CHEs through the provision of parenting support, knowledge, and skills. The CGI targets caregivers living in CHEs with children aged 8–12 years, and with concern regarding the mental health or psychosocial wellbeing of their child.

The results of Phase 1 reinforced background literature in identifying a need for evidence-based interventions for child mental health in CHEs across the age range. There is debate in the literature regarding the relative vulnerability of children at different ages to the circumstances of CHEs, however each developmental period presents distinct protective and risk factors to children exposed to potentially traumatic experiences and adversity [103]. The decision to focus on the 8–12 year age range was based on: (i) the lack of effective and feasible interventions for children and parents of children in this age range, (ii) the vulnerability of children in this age range in CHEs (e.g., increased cognitive capacities relative to younger children, including awareness of the meaning and negative consequences of the context), and (iii) the potential impact of a parent program for this age group (given the central role of parents relative to older adolescents).

The CGI consists of six, 2-hour group sessions run weekly. A group modality was chosen due to its acceptability (for parenting interventions and in populations in CHEs), encouragement of parent social support, and resource-effectiveness. Resource-effectiveness is critical in CHEs where financial, human and other resources are extremely limited. Six 2-hour sessions were determined adequate to cover the content, while also feasible in terms of participant attendance based on feedback from other MSF-OCA group programs. The CGI is a closed group, and parents are encouraged to attend all sessions as each session builds on previous sessions. The CGI utilises didactic teaching, demonstrations, group discussions and role plays.

The CGI facilitator manual provides detailed guidelines for non-specialist facilitators to implement the intervention. Ensuring the CGI was suitable for implementation by non-specialist staff is critical in CHEs where specialist mental health staff are lacking. However, the results of Phase 1 found that non-specialist staff lacked the knowledge and skills to implement child and mental health interventions. Hence, in addition to the detailed facilitator manual which outlines the content of each session, a section outlining requirements for the initial training and ongoing support of group facilitators (provided by specialist mental health staff) is included in the introduction. This entails: (i) minimum training of three days (or equivalent hours) regarding the content and process of implementing the CGI using didactic and

participatory approaches, and (ii) unstructured supervision of a minimum 30–60 min weekly focused on implementation issues regarding group content, process and/or participants.

The content of the CGI is outlined in Table 1. Many topics target the specific experiences of children and parents in CHEs, using a trauma-informed approach to explicitly address the impact of potentially traumatic events and ongoing adversity on parents and children (such as 'child development and traumatic experiences'; 'survival brain and learning brain'). Case examples used throughout the CGI reflect common experiences described in CHEs and culturally adapted to the local context (see Sect. 4.5). Other topics in the CGI are tailored to the needs of CHEs. For example, the topic of 'under-protection and over-protection' is a common parenting issue, however, can be a particularly challenging issue for parents in CHEs (e.g., parents in Palestine have expressed uncertainty regarding whether allowing children to play war games and witness funerals is beneficial or detrimental to their mental health [12]). This topic is therefore approached with an understanding that context must be considered, and that parental ability to reflect on current circumstances and be flexible are key.

In line with the transdiagnostic approach, the content of the CGI does not include any symptom- or diagnostic-specific therapeutic techniques. Rather, there is a focus on potential underlying processes such as building the attachment relationship (through topics such as 'Spending time with your child', 'Playing with your child' and 'Comforting your child') and co-regulation (through topics such as 'Over-arousal and under-arousal' and 'Being aware of your own brain state').

Results of phase 3: Expert consultation

Eight, of a potential 14 experts that were contacted, provided clinical input into the CGI. These experts had backgrounds in clinical psychology, social work and mental health. Two were child mental health specialists with experience in CHEs, three were mental health specialists with extensive experience working in CHEs (including child mental health, but not specialised in this area), and three were child mental health specialists with extensive experience working with families and trauma. Clinical experts were from a range of countries including Australia, the Netherlands, the United Kingdom, the occupied Palestinian Territories, and Italy. Seven clinical experts were female (87.5%) and one male.

All expert consultants provided written feedback, which was positive and constructive. The following findings were integrated into the CGI:

- Terminology changes (e.g., use the term 'practice activity' rather than 'role play'; do not use the term 'humanitarian' with caregivers).
- Additional guidance for facilitators on time management skills and managing difficult participants (sections added to the introduction for facilitators; facilitator training will cover these topics).
- Allocate more time for certain sections (e.g., naming and accepting emotions; talking to your child about trauma).
- Reduce/ simplify certain sections (e.g., use two child narratives in the case examples rather than three; limit the 'focus for the coming week' to one or two items each week).
- Emphasise important points through repetition (e.g., repeat 'talking does not work when your child is in survival brain').

Results of phase 4: Consultation with non-specialist staff

A total of 17 potential participants were contacted regarding the study, of which 10 agreed to participate and completed the informed consent process. One participant did not respond to subsequent emails and was considered withdrawn from the study. All interviews were conducted by the primary researcher in November and December 2020, and took between 15 and 40 min ($M = 24$ min). Six participants consented to the interview being audio-recorded, while three did not.

Participant demographics

Participants were from diverse roles and professional backgrounds, and included staff working in case work, law, human resources, operations, communications, fundraising, corporate management, child protection, and project management. Participants had many years of experience supporting families that had experienced violence and abuse, having worked for Femili PNG for between 22 months and over six years ($M = 2.5$ years). All participants were female, and age ranged from 20–29 years old to 50–59 years old. Six participants worked for the Lae office, and three for the Port Moresby office.

The relevance, comprehensibility and potential challenges of the CGI

Participant's perceptions of the CGI were positive and all agreed that the CGI appeared relevant and useful for parents in vulnerable populations in settings of humanitarian need. Psychoeducation regarding child development, child behaviour, child mental health, the impact of violence and abuse on children, and the potential impact of parenting were highlighted as very relevant and important components of the CGI. Skill development, such as listening or responding to an angry child, was also

emphasised as important. Most participants felt that parents in vulnerable populations would view the CGI as a positive and welcome support. Some participants thought the CGI would be particularly helpful in situations of family violence, or when a child had experienced abuse and neglect. Participants also said that parents would appreciate expressing themselves and having support, particularly given the lack of services in CHEs. One participant thought the CGI had potential to be relevant to other adults working with children such as teachers, health professionals and religious leaders.

> "We still have a gap in terms of that service being made available for mental health counselling for parents".
> "When we are talking to the child we should be in a better position to understand their actions, why they are doing this, and all these things. Because most of us – we don't really understand".
> "So much here that needs to be done, but parents don't know where to start. Any intervention or help would greatly, greatly assist the parents especially".

Participants described the CGI as comprehensible, with suitable detail in the manual to allow non-specialist staff to facilitate it effectively. All participants agreed that the training and supervision planned for and outlined in the CGI manual, and seen as an integral part of CGI implementation, would be essential for non-specialist staff.

> "The concepts were new, but understandable. Concepts about the brains reaction to trauma, survival brain and learning brain, were new but understandable. It is good, because I'm learning something new".

The main challenge identified regarding implementation of the CGI in vulnerable populations in settings of humanitarian need was low mental health literacy and stigma regarding mental health. This was described in some sections of the population in PNG and will likely also be relevant to other settings.

> "Sometimes it depends on the understanding of the parents. Some they see the importance of it, some they don't really... see the importance of it. So it depends on the ongoing awareness being carried out in the community".

Cultural issues may present challenges. In PNG cultural views on masculinity, and the perspective that the man is in charge of the family, were identified as potentially challenging. Further, a cultural value on privacy, where family issues are seen as no one else's business, may present challenges. Participants suggested emphasising the focus

on child development and behaviour, rather than on parents. Outreach, awareness raising and increasing mental health literacy may increase parent interest and engagement. Further, selection of facilitators with culturally relevant personal characteristics (such as age or gender) was seen as important to ensure respect from participants.

> "In Papua New Guinea we have these cultural norms... sometimes the men think that they are... the head of the family and they are the one giving us, woman, orders".
> "The trainer should... [be] married and have experience. Like, they have kids and experience. We can't just get a young one who is not married to... be the facilitator to run this training".

Adaptations to the CGI
No specific changes were made to the content of the CGI following Phase 4 as the study findings confirmed the appropriateness, relevance, and comprehensibility of the CGI. Nonetheless, the findings described here provided powerful reinforcement of the recognised need for certain procedures during any future preparation for and implementation of the CGI, namely: community awareness raising, cultural adaptation (including facilitator selection, engaging male caregivers), and the provision of adequate training and supervision for non-specialist staff.

Results of phase 5: Cultural adaptation
Cultural adaptation confirmed the usefulness of the methods of cultural adaptation employed and resulted in a culturally adapted version of the CGI that could be implemented and evaluated in Northern Iraq.

Stage 1 resulted in several recommendations to improve the cultural appropriateness of the CGI. Table 4 outlines the findings from this information gathering stage. All recommendations were integrated into the CGI during stage 2.

Stage 3 (preliminary adaptation test), embedded within a broader pilot study [63], was completed between January and July 2021 in Al-Abassi in the Hawija District of the Kirkuk Governorate in Iraq. Feedback from group participants and facilitators indicated good cultural appropriateness across the eight dimensions of cultural adaptation. The CGI was described as relevant to the needs of caregivers and appropriate to the local culture / context by group participants and facilitators. The only issue highlighted by both group participants and facilitators was the need for a group for fathers. The CGI is designed for all primary caregivers regardless of gender, however, future implementation in Northern Iraq will require active recruitment of male caregivers and

Table 4 Stage 1 recommendations to improve the cultural appropriateness of the CGI

Dimension	Recommendation / Adaptation
Language	- The CGI manual, research materials, and outcome measures were translated into Arabic. - An option for low literacy participants to complete outcome measures verbally (data collection staff and group facilitator read the items) was implemented. - Names, idioms, and other language was deemed appropriate. - Group facilitators were Iraqi nationals that spoke Arabic.
Persons	- Group facilitators were selected by the MSF-OCA team – one male, one female. - It was determined that a female group would be appropriate, partly based on cultural norms (as females would be shy and embarrassed to sit with males) and partly based on the availability of female caregivers during working hours when the group was able to run. - In the context of Al-Abbasi participant age, parental status, ethnicity, race and religion were not deemed to need special consideration. - On collecting socio-demographic information from participants the category 'Muslim', rather than 'Sunni' or 'Shia' was used under religion. This was deemed more appropriate given that MSF is an international organisation collecting data which could potentially raise suspicion.
Metaphors	- The metaphor of 'refill your cup' was used instead of 'recharge your battery', as recharge your battery has sexual innuendo in the area. New text and illustration were produced to support this metaphor. - Clothing (including headscarves for all adult women), objects and hairstyles in the illustrations were deemed appropriate.
Content	- No changes required.
Concepts	- No changes required. The explanatory theory of illness in the model, which emphasises environmental, biological, and psychological factors was deemed appropriate.
Goals	- No changes required.
Methods	- No changes required.
Context	- No changes required.

implementation of separate groups for male and female caregivers.

Discussion

A multi-phase, multi-method process was employed to develop an evidenced-informed caregiver group intervention to address child mental health in CHEs. The CGI is designed to be delivered by non-specialist staff over 6 weeks to caregivers of 8–12 year olds.

Systematic reviews provide preliminary support for the use of parenting interventions in CHEs [19, 20], however the evidence is limited and further trials evaluating effectiveness as well as outcomes beyond parenting (such as child mental health) is indicated. The CGI contributes to this growing research focus by providing a unique intervention that was developed with input from specialist and non-specialist mental health staff working in CHEs to address the specific needs of populations in CHEs. The CGI is an indicated, trauma-informed intervention that provides substantial caregiver guidance. An integrative, transdiagnostic approach was used to develop an intervention that, following cultural adaptation, could be relevant to diverse CHEs and implementing organisations. The conceptual model of the CGI, the underlying theoretical frameworks and the therapeutic techniques employed were selected to address the needs of the population and constraints of the setting. An important consideration in CHEs is the lack of human, financial and other resources. The CGI is resource-effective in that it: (i) is an indicated intervention, (ii) is facilitated by non-specialist staff, and (iii) uses a group format.

Literature review and formative research with humanitarian mental health staff identified a clear need for interventions to support caregivers in CHEs. Further, our research with humanitarian staff found there is a significant gap in the availability of contextually relevant, evidence-based parenting interventions across many CHEs. Psychological theoretical and therapeutic approaches that addressed the child mental health and parenting concerns identified among this population were selected to guide the development of the intervention and facilitator manual. Expert consultation was used to refine the manual and ensure clinical quality. Consultation with non-specialist staff in PNG found the CGI was relevant and useful to a vulnerable population in a humanitarian context, as well as comprehensible and useful for non-specialist staff to facilitate. Cultural adaptation of the CGI to Northern Iraq was successfully completed using a multi-step process.

The diversity of perspectives and the range of data sources in this multi-phase process has strengthened and refined the CGI. The process relied on integrating information and feedback from diverse groups including specialist mental health staff, non-specialist staff, and primary caregivers. Further, diverse sources of data included qualitative research with specialist and non-specialist staff, expert consultation, review of evidence-based theoretical and therapeutic approaches, and group facilitator and primary caregiver participant feedback. This integrative approach resulted in a clinically relevant and culturally appropriate intervention that is tailored to

the specific needs and requirements of parents and non-specialist staff in CHEs.

Throughout the research phases described in this paper certain concepts emerged that warrant highlighting. First, low mental health literacy and stigma was identified in many CHEs. Outreach and education programs to reduce mental health stigma, and ensure parents are aware of the potential benefit that psychological interventions can have in addressing child emotional, behavioural and psychological difficulties are critical. Second, limited resources, particularly human resources, is a concern in CHEs. This strengthens the justification for providing as much guidance to non-specialist staff as possible. Our research found that even some specialist mental health staff working in CHEs, and providing training and supervision to non-specialist health staff, did not have specialist skills or knowledge in child mental health. Third, in all phases of this research we received positive feedback and encouragement for the CGI in terms of the need for such an intervention and the usefulness of the CGI itself. Parents and staff recognised the need for, and described a desire for, greater guidance about parenting children in CHEs. Fourth, the importance of cultural adaptation was highlighted in all phases of the research. The process and content of cultural adaptation used was effective in establishing strong cultural appropriateness of the CGI for Northern Iraq, and this approach will be reiterated in future implementation of the CGI in different contexts. It is likely that the focus of the CGI on transdiagnostic processes supported the cultural appropriateness of the intervention. Fifth, the importance of fathers and the influence of patriarchal views and practices was raised in PNG and Iraq, reinforcing the importance of engaging male caregivers. Despite cultural differences in the roles of fathers, they are important figures in influencing child development, supporting female caregivers to access services, and supporting any changes to parenting in the family home. Although fathers can be more difficult to engage and retain in parenting interventions, when barriers are identified and addressed father engagement and retention in parenting interventions can be high [30, 104].

Limitations

In Phase 1, the range of stakeholder viewpoints was limited to MSF international staff. Despite the unique and relevant perspective this provided, it is a limitation that other relevant stakeholders (national staff, parents, children) were not included. As MSF work in remote settings, across diverse cultures and countries, challenges regarding resources and communication (e.g., reliable Wi-Fi, availability of translators) meant it was not feasible to directly interview children, parents, or MSF national staff at this stage of the broader research project. Similarly, in

Phase 4 the range of stakeholder viewpoints was limited to Femili PNG staff as, at this early stage of development and evaluation, it was not feasible to directly interview children and parents (unreliable wi-fi, availability of translators, inability to travel in person due to COVID-19 travel restrictions). The importance of evaluating the perspectives of children, parents and national staff on the CGI is recognised, and will be explored in future pilot testing of the CGI in any setting where it is implemented.

Male representation among participants in Phases 1, 3, 4 and 5 is low. For the studies involving staff, this is reflective of the global gender imbalance in health and social care workforce [105]. Further, the predominance of female caregivers in Phase 5 reflects primary carer patterns and practices in many cultures and communities, including those of CHEs. Nonetheless, fathers strongly influence the household environment in which a child lives and play an important role in supporting positive child mental health and psychosocial development. The CGI is not targeted towards female caregivers, and future research must actively seek to engage male caregivers [30, 104], understand their perspectives on the CGI, as well as evaluate the effectiveness of the CGI with both female and male caregivers.

Lastly, as the feedback regarding the cultural appropriateness of the CGI was from participants and staff that knew the aims of the CGI it is possible that social desirability influenced their responses. Nonetheless, the findings described in this paper provide clear justification for further development and research regarding the CGI with other populations in CHEs.

Conclusions

The research described in this paper has resulted in a culturally appropriate, contextually relevant, and clinically accurate parenting intervention that aims to support child mental health in CHEs. This initial iteration of the CGI will be refined further as it is adapted, implemented, and evaluated in CHEs. Future research should focus on: (i) further pilot testing and participatory development of the intervention including the involvement of male caregivers, (ii) a randomised controlled trial to evaluate the effectiveness and long-term effectiveness of the CGI, (iii) critical evaluation of the conceptual model underlying the CGI to support refinement of the CGI and understanding of parenting interventions in CHEs, and (iv) evaluation of the CGI in other CHEs to assess its generalisability, scalability and sustainability. An additional future direction is to explore the recommendation made by staff in PNG (Phase 4) to assess the applicability and generalisability of the CGI to other key support figures in the child's life (such as social workers, teachers, religious leaders). Planning is underway with operational partners (MSF-OCA and Femili PNG) to develop such studies.

If and when the effectiveness of the CGI is established it will be made available as an open access resource to practitioners and researchers working in CHEs. Prior to this please contact the lead author for access to the CGI.

Abbreviations

CEO	Chief Executive Officer
CGI	Caregiver group intervention
CHE	Complex humanitarian emergency
DRC	Democratic Republic of the Congo
HIV	Human Immunodeficiency Virus
IDP	Internally Displaced Persons
LMIC	Lower Middle Income Country
MSF	Médecins sans Frontières
MSFOCA	Médecins sans Frontières-Operational Centre Amsterdam
NGO	NonGovernment Organisation
PNG	Papua New Guinea
RCT	Randomised controlled trial
WHO	World Health Organization

Author contributions
S.C. Design of the research, implementation of the research, analysis of data, interpretation of results, writing the manuscript. A.C. Design of the research, analysis of data, interpretation of results, writing the manuscript. T.H. Design of the research, analysis of data, interpretation of results, writing the manuscript. G.J. Design of the research, analysis of data, interpretation of results, writing the manuscript. K.L. Design of the research, implementation of the research, analysis of data, interpretation of results, writing the manuscript.

Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate
The study described in Phase 1 received ethical approval from the Australian National University Human Research Ethics Committee (Protocol 2017/717) and was approved by the MSF-OCA Medical Director. The study described in Phase 4 received ethical approval from the Australian National University Human Research Ethics Committee (Protocol 2020/564) and was approved by the CEO and Operations Directors of Femili PNG. The research described in Phase 5 was embedded in a pilot study that received ethical approval from the Australian National University Human Research Ethics Committee (Protocol 2018/244) and from the Médecins sans Frontières Ethics Review Board (Protocol 1854). Local approval to complete the pilot study in Al-Abbasi was received from the Kirkuk Governorate Ministry of Health, Iraq.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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