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Interventions for Children Affected by War: An Ecological Perspective on Psychosocial Support and Mental Health Care

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Abstract

Background—Children and adolescents exposed to armed conflict are at high risk of developing mental health problems. To date, a range of psychosocial approaches and clinical/psychiatric interventions has been used to address mental health needs in these groups.

Aims—To provide an overview of peer-reviewed psychosocial and mental health interventions designed to address mental health needs of conflict-affected children, and to highlight areas in which policy and research need strengthening.

Methods—We used standard review methodology to identify interventions aimed at improving or treating mental health problems in conflict-affected youth. An ecological lens was used to organize studies according to the individual, family, peer/school, and community factors targeted by each intervention. Interventions were also evaluated for their orientation toward prevention, treatment, or maintenance, and for the strength of the scientific evidence of reported effects.

Results—Of 2305 studies returned from online searches of the literature and 21 sources identified through bibliography mining, 58 qualified for full review, with 40 peer-reviewed studies included in the final narrative synthesis. Overall, the peer-reviewed literature focused largely on school-based interventions. Very few family and community-based interventions have been empirically evaluated. Only two studies assessed multilevel or stepped-care packages.

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Conclusions—The evidence base on effective and efficacious interventions for conflict-affected youth requires strengthening. Postconflict development agendas must be retooled to target the vulnerabilities characterizing conflict-affected youth, and these approaches must be collaborative across bodies responsible for the care of youth and families.

Keywords

ecological; interventions; mental health; psychosocial; war-affected youth

Introduction

In the midst of war, images of children and families caught in the crossfire disturb and motivate action. However, as conflicts subside and media attention turns to the latest breaking emergency, little attention is paid to the longer-term mental health and psychosocial sequelae plaguing conflict-affected children and families. In general, mental health receives limited attention from policymakers and funding agencies, and it is rare for countries under conflict to emerge with a post-conflict development agenda that includes robust attention to mental health services.

Evidence-based intervention principles are vital to adequately address the needs of populations affected by disasters and mass violence.^{1,2} Experts have pinpointed the following five intervention principles as “essential elements” of immediate and midterm mass trauma interventions, which need to promote (1) a sense of safety, (2) calming, (3) a sense of self-and-community efficacy, (4) connectedness, and (5) hope. Inadequate responsiveness to these issues is especially concerning in view of the body of research documenting increased risk of mental health problems in war-affected children and families.^{1,3–8}

An ecological framework is useful for considering how multilevel interventions can improve long-term mental health and psychosocial well-being. Often cited in this context is the work of Uri Bronfenbrenner. Although he later revised the emphasis of his work, his most cited publication⁹ emphasizes the importance of the environment in which children grow up, and conceptualizes environmental influences at different nested levels—for example, the individual (ontogenic system), the meso-system, exo-system, and macro-system—depending, for instance, on the amount of direct interaction that a child has with these social systems. Current applications of this theoretical framework with children in adversity have focused on transactions taking place between risk and protective factors at different socio-ecological levels—that is, the family, peer, school, and wider-community levels.^{10,11} When resources at any level are compromised, the risk of poor developmental outcomes and poor mental health adjustment increases; for example, among children and youth exposed to conflict, adverse mental health outcomes triggered by exposure to horrific events are compounded by war-related damage to the extended support systems (family, social, economic, political) that usually foster healthy child development.^{3,10,12–17} When resources across the social ecology are more robust (e.g., family and community acceptance, access to school), children can achieve more positive outcomes, even in the face of extreme hardship.^{18,19} It follows that layers of comprehensive supports, coupled with interventions

aimed at rebuilding or strengthening such resources, have the potential to improve children's capacity for resilience and to mitigate the effects of conflict experiences.^{5,10,18–20}

Despite consensus from the Inter-agency Standing Committee Reference Group on Mental Health and Psychosocial Support in Emergency Settings¹ on the importance of a protective environment, this model of holistic intervention is often challenged. Debate continues in both the research and programmatic communities about the prioritization of clinical interventions—that is, psychotherapeutic and pharmacological treatments for people suffering from identified mental disorders and associated impairment²⁰—over psychosocial programming—that is, preventive interventions and programming to strengthen protective factors and bolster social contributors to well-being.^{21,22} Although guidelines commonly argue that the integration of these paradigms can provide services better suited to a continuum of mental health adjustment, a false dichotomy between the two domains persists.^{20,23} In truth, combined intervention strategies that attend to both prevention/mental health promotion and clinical approaches (targeting individuals with identified mental disorders with evidence-based practices) have consensus support.⁵

In this article we review the peer-reviewed literature on psychosocial and mental health interventions targeting children and adolescents affected by conflict. To address service gaps resulting from the clinical-psychosocial dichotomy, it is useful to examine the range of existing interventions using an ecological lens. By organizing interventions according to each ecological level's focus, we can gain insight into the similarities and inconsistencies between same-level programs, as well as into the complementarity of interventions across levels. Where available, we refer to research or evaluation efforts that provide an evidence base for intervention effectiveness. Furthermore, we organize interventions according to their orientation toward *prevention* (i.e., upstream intervention to address risk and protective factors prior to onset of problems), *treatment*, or *maintenance* (i.e., interventions to reduce either distress and symptoms or the chance of relapse, respectively).^{24,25} By organizing the literature according to this framework, we offer a snapshot of current knowledge while highlighting existing gaps.

Methods

Using Preferred Reporting Items for Systematic Reviews and Meta-analyses criteria (<http://www.prisma-statement.org>), we searched PubMed, PsycINFO, and EMBASE for all peer-reviewed publications from 1990 to 2011 that pertain to mental health and psychosocial interventions for conflict- and war-affected children and adolescents. Returns were limited to those that contained keywords within a matrix of relevant terminology identified in the study title or abstract. To this end, the following search terms were utilized: (child(ren) or youth(s) or adolescent(s)) and (war or conflict) and (intervention or program or therapy or treatment) and (mental health or psychosocial or depression or anxiety or posttraumatic stress). Sensitivity of searches was refined by using keywords and the bibliographies of

¹The Inter-agency Standing Committee, <http://www.humanitarianinfo.org/IASC/>, was established by the United Nations in 1992 as “the primary mechanism for inter-agency coordination of humanitarian assistance,” including between “key UN and non-UN humanitarian partners.”

stress reactions.²⁶ Significant correlations between child adherence to the intervention, child attachment to the doll, and improvements in well-being were observed. Additional research is needed to examine intervention mechanisms, but initial results suggest that the intervention may be implemented early on during conflict as a preventive measure.

Psychological first aid—Recently, growing attention has been given to individual psychological first aid, which is an intervention aimed at strengthening mental health outcomes in the immediate aftermath of a disaster or conflict. Recently, the World Health Organization has published guidelines on psychological first aid. In essence, this guide focuses on the intervention as a supportive, nonintrusive form of interaction that aims to provide practical assistance where possible, connect people with existing supports, and identify those in need for more specialized services. Although psychological first aid is recommended by international consensus-based humanitarian guidelines,⁸⁰ no rigorous (i.e.,

Few studies have investigated the maintenance of individual treatment gains over time. In a small pilot study of KidNET, participants demonstrated sustained treatment effects at a nine-month follow-up,³¹ but further research is needed on the efficacy of KidNET in treating PTSD; in other settings, long-term results of narrative exposure therapy with adults have been mixed.⁸³

Multiple-family group intervention—A multiple-family group intervention that also included individual home visits was piloted with 30 families living with severe mental illness in postwar Kosovo.³⁹ Families participated in seven sessions of psychoeducation about chronic mental illness—led by a local psychiatrist and nurse and supervised by trained local services teams and American study consultants. The therapy aimed to increase compliance with psychiatric medication among war-affected individuals in treatment and to improve mental health service use among families. Discussions in group sessions addressed the following topics: psychoeducation; medication use and side effects; psychosocial causes and effects of relapse; problem solving in response to symptoms; responding to crises; accessing professional mental health services; and building resilience. Findings indicated positive effects on both outcomes, although additional information related to child mental health outcomes would have strengthened the study design. This study used a collaborative approach to delivery, including close work with Kosovar partners.

Family-Level Interventions: Maintenance

None of the research on family-based interventions for conflict- and war-affected populations has investigated the maintenance of effects over the longer term. This topic remains an important target for future research efforts.

Peer- and School-Based Interventions: Prevention

Although many schools in high-resource settings have implemented programs with the primary aim of prevention, few such interventions have been implemented and evaluated in low- and middle-income settings affected by armed conflict.⁹⁹ Within the school setting, interventions can be aimed at preventing mental health problems in all children in the school (i.e., a universal approach) or aimed at specific at-risk groups (i.e., selective and indicated prevention, which often have overlapping aims with treatment interventions). Our search identified only a handful of prevention-oriented studies.

Structured activities at nongovernmental organization sites—In a yearlong, nonrandomized trial involving a sample from the Palestinian Territories, researchers assessed the effects that structured activities at nongovernmental organization sites had on child mental health (internalizing and externalizing), child hopefulness, and parental support.⁴⁰ Structured activities included traditional dance, art, sports, drama, and puppetry. This combination of activities was hypothesized to (1) assist emotional adjustment in hostile environments by providing routine, constructive engagement and opportunities for attachment and expression, (2) positively affect parent-child relations by providing safe, shared outdoor activities, and (3) increase children's future orientation. Special emphasis was placed on ensuring a culturally appropriate community focus, which entailed the translation of all materials to the local language, the employment of local volunteers as providers, the implementation of cultural activities, and the use of the community center as the focal location for all activities. Child participants demonstrated improved internalizing/externalizing outcomes when compared to a small control arm; improvements in hopefulness were not observed; improvements in parental support were reported at one of the sites involved.

Universal school-based programs—Universal school-based programs for war-affected children have been piloted in several contexts, although intervention effects have been largely evaluated through cross-sectional follow-up studies.

In Uganda, researchers investigated effects of a school-based intervention that progresses through 15 structured sessions, incorporating play therapy, drama, art, and movement to increase feelings of stability and to improve emotional outcomes.⁴¹ Notably, psychosocial structured activities are integrated with community service opportunities and parental engagement in order to attend to multiple levels of ecological needs. In a cross-sectional follow-up study of intervention participants versus community controls, researchers observed that improvements in child well-being were significant among those assigned to the intervention arm, with group assignment and age reported as significant predictors of child-reported well-being. Parent and teacher reports suggested that girls may benefit more from the intervention than boys.

A similar school-based intervention (named Overshadowing the Threat of Terrorism) to reduce PTSD, functional impairment, somatic complaints, and anxiety was tested among children whose schools had sustained repeated terror attacks in Israel.⁴² This universal intervention involves cognitive-behavioral components, art therapy techniques, body-oriented strategies, and narrative approaches to document children's experiences. The quasi-randomized design assigned 70 students to the intervention and 72 to a waitlisted control, and was implemented by trained teachers over eight 90-minute sessions. Parents and families participated via homework assignments and during two psychoeducation sessions. Positive treatment effects were found on all outcomes of interest.

Finally, we identified two preventive school-based interventions (both piloted in Israel) that focused on developing resiliency as a mechanism for addressing mental health. The first (named ERASE-Stress) uses psychoeducation and skill training with meditative and narrative practices to re-process traumatic experiences and boost self-esteem and access to social supports.⁴³ The second is a primary prevention intervention that focuses on amplifying three factors—social support, self-efficacy, and meaning attribution—to moderate psychological distress.⁴⁴ In research trials, both interventions were implemented as universal, classroom-based programs. Significant intervention effects in moderating psychological distress were observed as compared to control groups in both studies.

Selective or indicated school-based programs—Cross-sectional analyses of a school-based psychosocial intervention implemented with children in Gaza during an active conflict period focused on positive aspects of well-being, such as good family and community relationships, trust, problem solving, and hope.⁴⁵ Results from this study indicated significant positive effects of the intervention, with durability of at least four years (despite lower effectiveness in one subgroup assessed two years post-intervention).

In Bosnia, a cross-sectional follow-up study found that symptom severity and cluster symptoms—especially in reexperiencing and avoidance—were significantly reduced among students who participated in a schoolwide trauma-reduction project, as compared to controls.⁴⁶

By contrast, in a cross-sectional follow-up study comparing intervention participants to community controls in Lebanon, no positive effects were observed among children who received a school-based intervention combining cognitive-behavioral treatment strategies with activities like drawing, creative play, and group discussion.⁴⁷

Youth clubs—In Serbia, youth clubs have been widely implemented in boarding schools and youth hostels, and include a wide range of participant-directed activities, including communal games, poetry, guest speakers, drama, and group debate. In one study of youth from a boarding high school where youth clubs are active, researchers evaluated the impact of clubs on psychological symptoms in 128 youth club participants as compared to 978 controls.⁴⁸ Significant increases in self-respect were registered in youth club participants, as were decreases in withdrawal and anxiety in boys and withdrawal and social problems in

males and females maintained their levels of hope. No effects on anxiety, depression, or PTSD-like symptoms were observed among male or female participants.¹⁴ Larger improvements in play social support (social support for emotional problems through playing with others) were associated with smaller improvements in PTSD symptoms.⁵⁵

In Nepal, the same classroom-based intervention was not associated with any main effects, but girls receiving the intervention improved on pro-social behavior, boys improved on psychological difficulties and aggression, and older children displayed an increased sense of hope compared to those in a wait-list control group.⁵⁷ In Burundi and Sri Lanka, treatment effects were less robust.^{12,56}

Dance and movement therapy—The effects of dance and movement therapy have been

participate in the intervention. Results from the study suggest that classroom-based programs that combine psychoeducation, skills building, and supportive counselor contact may be adequate to reduce distress in war-exposed youths living in low-resource settings.

Vocational training + psychosocial support intervention—In northern Uganda, an educational intervention to provide vocational training and as-needed psychosocial support has been evaluated through qualitative inquiry.⁶¹ In this program, psychosocial support is provided to youth who score above threshold on an assessment of psychosocial distress. The psychosocial support includes counseling in coping strategies and in cognitive and behavioral methods, as well as facilitating referrals for youth who require additional follow-up. The intervention aims to provide an integrated approach for all war-affected youth desiring livelihood opportunities, including youth with increased need for mental health support. Findings from the intervention showed that most psychological distress for youth—including sleeping problems, psychosomatic symptoms, and worries about family, future, and income—can be ameliorated by providing psychosocial support for students and teachers, in this case by counselors with a wide range of training backgrounds, from short-term certificate training from local organizations to full university master's degrees. Mental health support, such as counseling vulnerable youth and training teachers to provide psychosocial support to students, should be incorporated into general health services and programs.

Readiness via group therapy + education—In Sierra Leone, an RCT is presently taking place to assess the ability of a Youth Readiness Intervention to decrease problems with emotion regulation/anger and general psychological distress and to improve pro-social/adaptive skills and daily functioning among war-affected male and female youth (ages 15–24, per the UN definition of youth). The intervention integrates common practice elements derived mainly from CBT (i.e., psychoeducation, behavioral activation, cognitive restructuring, and sequential problem solving) and group interpersonal psychotherapy (i.e., addressing interpersonal deficits and building social support). Initial results of an open trial indicate reliable change across all outcomes investigated.⁶² Limitations of the study include the lack of a control group; however, a larger RCT that includes a wait-list control group is currently under way. Future iterations of this research also plan to investigate the degree to which the intervention facilitates successful transitions to educational and employment programs for troubled youth in postconflict settings.

Teacher-led trauma/grief psychotherapy—A school-based curriculum to reduce psychosocial trauma and promote social healing in war-affected children from Croatia also demonstrated positive results.⁶³ In this study, teachers received training in the form of trauma/grief-focused psychotherapy developed in partnership with local social workers and psychologists. Weekly group sessions were conducted with the intervention group over a four-month period. Pre/post-assessments, including a one-year follow-up, examined levels of PTSD, self-worth, conflict resolution, social skills, psychosocial well-being, ethnic bias, and academic achievement. Results revealed a small, but significant, reduction in ethnic bias and a reduction of stress symptoms in the intervention group as compared to two control groups, with more positive effects on self-esteem observed among girls. Participants

exhibited an increased positive perception of Serbs. No significant correlations were found between trauma exposure, trauma symptoms, and social distance (also called *ethnic bias*: the degree of one's acceptance of the actions of other ethnic groups). Investigators proposed that future studies account for measures of parental attitudes. They also suggested that ethnic reconciliation may begin in school but is likely tempered by the degree of community buy-in. Potential confounding variables such as participant maturation, exposure to media, parental attitudes toward reconciliation, and the gender of trainers (all of whom were female) were cited as study limitations. These limitations suggest that the study could be improved by clear delineation and planning of variables to be controlled for in this context.

Nonformal education + trauma healing—*Rapid-Ed* is a four-week intervention targeting both educational needs and trauma healing. It was used in a trial of Sierra Leonean war-affected youth, aged 8 to 18 years, 9–12 months after the 1999 invasion of the capital city by the Revolutionary United Front rebel group. A total of 315 displaced children from two camps for internally displaced persons participated in *Rapid-Ed*. The intervention includes non-formal educational activities such as literacy and numeracy modules and a trauma-healing module that includes group sharing about past war experiences, psychoeducation regarding responses to trauma, discussion of positive memories before the war, and recreational activities.⁶⁴ A noncontrolled pilot study of *Rapid-Ed* was conducted in Sierra Leone over four weeks with biweekly, hourlong sessions. The treatment, designed in close consultation with Sierra Leone's Ministry of Education, was implemented by camp teachers who received six hours of training in the program. At post-test, participants displayed decreased intrusion and arousal symptoms, but increased avoidance symptoms. Study investigators hypothesized that this increase could be attributed to a temporary defense mechanism for dealing with daily stressors in an acute postconflict situation. However, the lack of a control group remains an important limitation of the study.

Short-term group crisis intervention—In a trial using a robust design among children affected by conflict in the Gaza Strip, participants aged 9 to 15 years presenting with PTSD symptoms were assigned without randomization to one of three study arms: (1) a seven-session group intervention that included drawing, free play, storytelling, and expression of feelings, (2) a four-session education intervention, and (3) a control group.⁶⁵ At a three-month follow-up, neither intervention was found to have significant effects on children's PTSD or depression symptoms. Study limitations included a small sample size (total $n = 147$), the lack of randomization, an absence of parental involvement in the interventions, and failure to account for war events experienced during the intervention period. Investigators hypothesized that the lack of significant effects could also partially be explained by the intervention's use of “non-active” components, which do not necessarily help children explore and come to terms with difficult experiences or emotions.

Peer- and School-Based Interventions: Maintenance

We did not identify any studies that sought to reduce relapses or recurrences of conflict- or war-related psychosocial and mental health problems in a peer- or school-based setting. One study of a school-based psychosocial intervention in Gaza observed long-term positive

effects at up to four years post-intervention, but study authors identified a need for more research on the intervention's longitudinal effects beyond this point of follow-up.⁴⁵

Community-Level Interventions

A number of studies suggest that the degree to which community support increases over time plays an important ameliorative role for conflict- and war-affected children.^{16,97,101,102} This review did not identify any evaluations of community-level interventions whose primary goal was to reduce psychological distress and prevent or treat mental disorders in children. However, given the importance of community support, we describe here several processes that activate and strengthen social networks, bolster traditional supports, and create child-friendly spaces, as such interventions may help to promote individual well-being and may prevent, or even provide some elements of effective treatment for, mental disorders in children.

Sensitization campaigns and programming—Sensitization campaigns about war-related mental health difficulties and community outreach to advocate good preventive practices have been incorporated into some psychosocial programs for children.³ These interventions have the potential to raise awareness of mental health at the community level and to reduce stigma around mental health problems in youth.¹⁰³ In Angola, researchers have piloted a grassroots program to restore social structures and practices in the communities affected by war.⁷³ The intervention included sensitization dialogues with community groups around children's problems, training seminars for community leaders who subsequently advocated for children's needs, activities to encourage emotional expression in a supportive group context, and physical reconstruction of village buildings (e.g., schools, community huts). Participating adults felt that the project helped strengthen the community's local protective processes, but no systematic, quantitative evaluation was conducted.

Mass media—Mass media, including radio and television, have been innovatively applied to deliver messages of healing and reconciliation to large numbers of people.⁶⁶ In Angola and Mozambique, radio programs have been used to deliver psychoeducation to the public through narrating, in a series of chapters, the stories and experiences of war-affected children.^{67,68} In other countries, media programs have been developed and broadcast by young people. For instance, in postconflict Sierra Leone, the “Talking Drum Studio” prepares weekly, youth-led radio broadcasts that contain music, news stories, and other information of interest to youth listeners. They are intended to model positive youth leadership and to help guide youth struggling to navigate the difficult postconflict environment.⁶⁹

As social media networks expand in low- and middle-income countries, many opportunities will develop for examining the psychosocial impact of online programming.

Community-level efforts to address healing—In many settings, traditional healing practices make critical contributions to social healing in the context of war.^{70,104–106} For instance, in Zimbabwe, Zezuru healers are known to engage family and community

members in groups, draw out concerns over children's problems, facilitate reconciliation in and between families, and create a restorative climate.⁷¹ Similarly, in Angola, researchers have observed how traditional cleansing rituals facilitate the reintegration of war-affected youth through forgiveness of past transgressions.⁷² Such research emphasizes the importance of interventions already in use within affected communities.^{13,104–107} To date, however, most research on traditional healing/cleansing ceremonies has been descriptive. No systematic evaluations have examined the degree to which communities and traditional healing interventions are associated with improvements in mental health in war-affected children and adolescents.

Reconciliation committees—Modern warfare goes hand in hand with mass human rights violations within civilian populations.^{108,109} Consequently, increased attention is being placed on reconciliation efforts that can address damaged social relations and human rights violations through judicial processes, and thus promote psychological healing at a macro level.⁷⁴ Truth and reconciliation commissions have been a part of national reconciliation efforts in a number of settings, including East Timor, Peru, Sierra Leone, and South Africa. In Rwanda, a state-orchestrated attempt at reconciliation between ethnic groups employed traditional *gacaca* justice mechanisms.⁷⁵

Unfortunately, the meager evidence available suggests that reconciliation processes are not necessarily associated with improved mental health status.^{110–112} In addition, such approaches have been critiqued for their lack of engagement with social change at the grassroots level.⁷⁶ Further research that attempts to address the possible preventive effects of transitional justice mechanisms on social relationships and population mental health is clearly needed.

Community-based rehabilitation—Although our review found no community interventions aimed at maintaining well-being or preventing relapse in war-affected children, community-based rehabilitation—a consensus strategy supported by the International Labour Organization, World Health Organization, and the United Nations Educational Scientific and Cultural Organization—may serve as a useful model for future research. This broad intervention is intended to promote teamwork between families, organizations, and communities to ensure that people with disabilities can maximize their physical and mental capacities and contribute to community life.⁷⁷ Because disability can serve as a unifying force among opposing factions, community-based rehabilitation has particular relevance to peace building in conflicts characterized by entrenched divisions based on racial, ethnic, and religious differences.¹¹³ For example, in Sri Lanka, this approach was used to bring together warring Sinhalese military and Tamil groups in educational workshops on child developmental disabilities such as polio, blindness, and stroke. These programs exposed both groups to the commonalities of the disability experience and promoted mutual assistance between them. Such community-level interventions aimed at raising awareness, building empathy, and combating stigma about mental and cognitive disabilities have significant potential to benefit war-affected children, families, and communities, and merit much more effort in program evaluation.

program may not be sustainable without additional changes in familial, peer, and community supports, further integration of these interventions within family- and community-based models is well warranted, as are strategies to reduce poverty and social/political conflict and to improve employment opportunities and educational access.^{12,13,126}

PTSD Interventions May Not Sufficiently Address Comorbidity

The reality of polyvictimization and the resultant comorbidity of mental health problems among war-affected children must be recognized. Because war brings with it a host of stressors—resulting from direct injury, exposure to loss, and even active involvement in perpetuating violence—the presentation of emotional, behavioral, and social consequences can be complex.¹²⁷ Treatments focused on single disorders may therefore have limited application; what is likely needed, instead, is a stepped-care model that entails treatment components for multiple types of psychological problems,^{59,88,128} including acute psychiatric problems.

Epidemiological work on child mental health in conflict- and war-affected settings can provide a deeper understanding not only of equifinality—the processes by which different war exposures may manifest in a similar set of symptoms and impairments—but of key outcome mediators (e.g., social supports, coping skills, emotion-regulation skills) and treatment moderators (e.g., age, gender, ongoing insecurity). A better understanding of these factors can help to guide future intervention research and also to create better-targeted interventions, including the selection of treatment or prevention components with cross-cutting applicability to common symptoms (e.g., traumatic stress reactions, hopelessness, and social deficits).¹²⁹

Sustainability and Cost-Effectiveness Are Important Considerations

The findings of this review imply that task-shifting and cost-saving innovations can be applied at multiple levels of intervention for war-affected children, youth, and families. Such models, if carefully crafted with high-quality training and supervision, may go a long way in overcoming some of the human-resources problems that characterize low-income and conflict-affected settings. In the reviewed studies, group-based interventions demonstrated better cost-effectiveness and potential for sustainability in school and community settings.¹³⁰ In Kosovo, even multiple-family groups were shown to be feasible, which has tremendous promise for future cost-effective interventions that may be made across the social ecology.³⁹

Highly trained mental health professionals, where available, can play an important role in developing a continuum of care by providing training and supervision, and by managing the more complex and acute cases. In many war-affected countries, however, this professional workforce alone is insufficient for addressing mental health needs. Several of the studies reviewed here highlight how paraprofessionals and lay facilitators may be successfully mobilized to deliver mental health and psychosocial interventions.^{29,50–53,58,59,63} Additional research to examine how families and communities can be trained to address the mental health consequences of war would be useful for extending the continuum of care beyond clinical or school settings to ensure more community-based resources. More research is also

needed to assess how locally developed models of healing and spiritual guidance may provide a natural base for building robust, culturally resonant, locally delivered interventions.⁷⁰

Differential Effects of Interventions Are Under-studied

A number of studies in our review have demonstrated stronger intervention effects in girls than in boys.^{14,49,131} Few studies to date, however, are of sufficient power to explain such gender effects. In future research, much more attention is needed to understand these differential effects by gender.

Treatment-intervention research will also benefit from a more detailed (and at the same time, broader) examination of *how* intervention effects are achieved and maintained—and not simply in terms of the efficacy of specified treatments in reducing a defined range of disorder-specific symptoms over a specified time. The need for this paradigm shift is exemplified by findings from cross-cultural applications of the classroom-based intervention that was associated with varying degrees of efficacy in Burundi, Indonesia, and Sri Lanka.^{12,56,126} Researchers from the study hypothesized that results reflect the varying degree of contextual stressors facing children and youth; for instance, in Indonesia, the higher rates of cohesiveness within families and communities (increasingly segregated by religion following the conflict) were hypothesized to have positively influenced child outcomes.¹²⁶ In Burundi and Sri Lanka, children exposed to ongoing challenges related to armed conflict and social disruption (e.g., poverty and violence in the home and neighborhood) did not benefit as strongly from intervention.¹³² Holistic research to investigate how individual, family, and community strengths work in tandem with interventions to support children has the potential to (1) identify active ingredients, which may help strengthen the size of treatment effects, and (2) provide interventionists with a toolbox of naturally occurring processes that can be flexibly targeted and optimized to address context-specific needs.

Measurement Tools for Cross-cultural Use Are Lacking

In the studies reviewed here, very few used locally validated mental health assessments to perform pre/post-intervention evaluations.^{49,133} Since symptom expression can vary widely between social and cultural contexts,^{121,127,134,135} evaluating intervention effects based on culturally insensitive measures may produce inaccurate or meaningless results. Integrated qualitative and quantitative (“mixed-methods”) research on context- or culture-specific mental health problems and resources can contribute to refining the suite of assessment and monitoring tools available for cross-cultural use.¹²¹ The use of improved measurement tools with strong psychometric properties and cultural acceptability may help to improve future longitudinal research and also research on maintenance interventions.

Mental Health Systems Strengthening and Sustainability Are Critical

From our review, it is evident that interventions to prevent relapse in children needing mental health services due to war-related exposures are currently limited. Humanitarian organizations supporting psychosocial and mental health programs in conflict- and war-affected countries need to systematically integrate a longer-term perspective into their work.

Budgetary support, technical assistance, and incentives from the international community can deliver immediate and emergency psychosocial support and mental health care, but political will is needed to galvanize the actual reforms that would build and strengthen systems at the local level. Overall, a dramatic paradigm shift must occur from the deployment of short-term “Band-Aids” to lasting investments, staffing, and technical support. Concurrently, interdisciplinary strategies should be culled from the health, business, and management sectors to guide future policy analyses and implementation research in global mental health, thereby enabling children, adolescents, and their families to be more effectively targeted.

The evidence base for mental health and psychosocial-support interventions for children and adolescents in areas of armed conflict is increasing, and promising intervention effects have been identified through rigorous research (as detailed in this article). Still, considerable gaps in knowledge remain. Our hope is that the overview provided here can serve as a foundation for motivating a shift in attention and for positioning mental health and psychosocial issues squarely at the heart of global humanitarian and postconflict development agendas.

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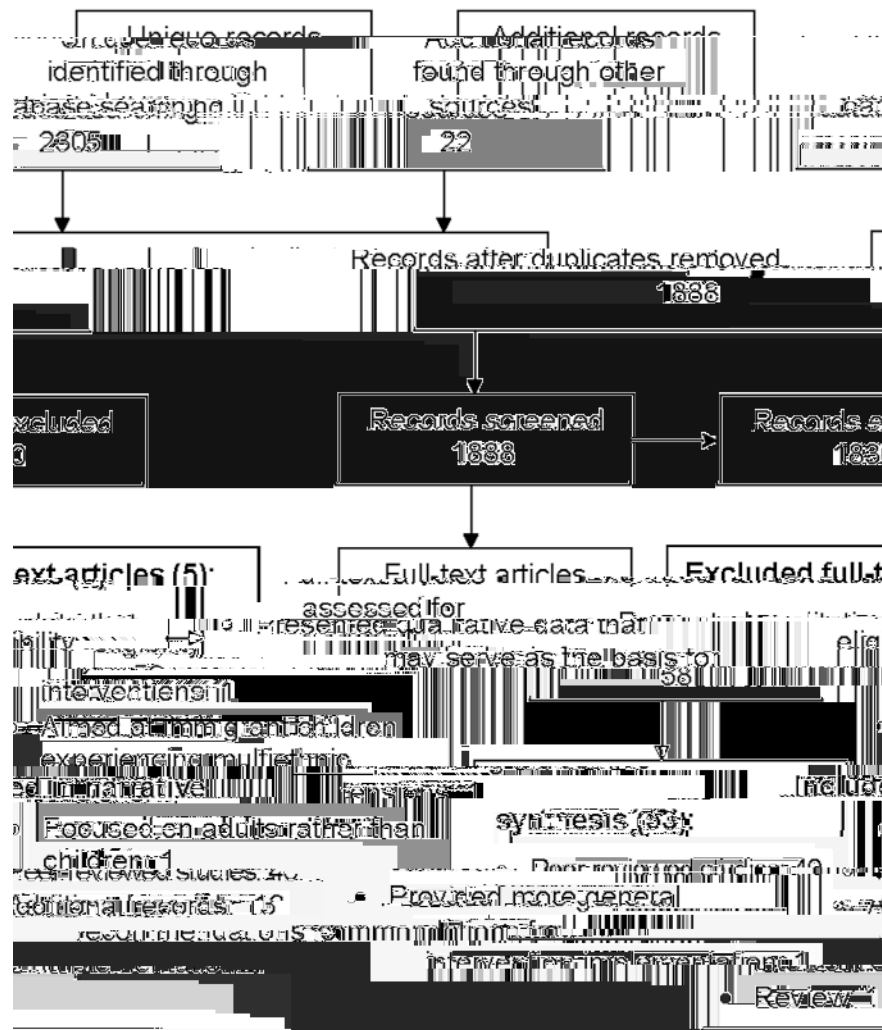


Figure 1. Systematic review following PRISMA standards.

Interventions Organized According to Ecological Level and Aim

Table 1

Level	Aims	Program	References	Design	Sample size (boys/girls/total)	Control group	Region	Additional comments & notes on cultural adaptation
Individual	Prevention	Huggy-puppy intervention	Sadeh et al. (2008) ²⁶	RCT	106/85/191	Yes	Israel	Brief intervention for young children (ages 2-7) living in midst of active conflict Intended to facilitate active coping with stress & war experiences & to prevent onset of symptoms Minimal time required on part of physicians/clinicians
		Psychological first aid	Aulagnier et al. (2004) ²⁷	Descriptive	n/a	n/a	n/a	Modular approach to strengthening mental health in immediate aftermath of disaster or conflict
	Treatment	Trauma-focused CBT	Task Force on Community Preventive Services (2008) ²⁸	Descriptive	n/a	n/a	n/a	CBT trauma-focused treatments are rare, given limited resources for one-on-one treatment

Level	Aims	Program	References	Design	Sample size (boys/girls/total)	Control group	Region	Additional comments & notes on cultural adaptation
		Universal school-based interventions	Ager et al. (2011) ⁴¹	Cross-sectional follow-up	210/202/403	Yes	Uganda	Emphasis given to cultural & recreational activities Administered by teachers in a classroom setting to increase

Level	Aims	Program	References	Design	Sample size (boys/grls/total)	Control group	Region	Additional comments & notes on cultural adaptation
		Vocational training + psychosocial support	Bannink-Mbazzi & Lorschiedter (2009) ⁶¹	Descriptive	51/39/90	No	Uganda	Provides psychosocial support as needed to any youth enrolled in livelihood training Represents a more integrated approach that avoids singling out specific categories of conflict-affected youth
		Readiness via group therapy + education	Betancourt et al. ⁶²	RCT	Pilot sample: 16/16/32	No	Sierra Leone	Intervention development entailed use of an exploratory, sequential, mixed-methods study design Group-based intervention linking youth to educational & employment opportunities was recommended The YRI is a feasible & acceptable intervention for war-affected youth; larger RCTs are needed to examine effectiveness and impact on emotion regulation, pro-social skills, & daily functioning
		Teacher-led trauma/grief psychotherapy	Woodside et al. (1999) ⁶³	RCT	126/125/151	Yes	Croatia	Close collaboration with local agencies led to development of a culturally relevant training program & manual Feedback from teachers applied to intervention revisions & refinements
		Nonformal education & trauma healing	Gupta & Zimmer (2008) ⁶⁴	Pre/post	167/148/315	No	Sierra Leone	A thorough, multistage translation process attended to cultural sensitivity Locally produced literacy & numeracy modules ensured cultural appropriateness Participant feedback provided further information on intervention acceptability
		Short-term group crisis intervention	Thabet et al. (2005) ⁶⁵	Pre/post	60/51/111	Yes	Palestine	Innovative attempt to treat trauma reactions during ongoing conflict Further adaptation of treatment techniques to increase cultural relevance may be warranted Integration of more cognitive or active tasks recommended by authors
Maintenance		Universal school-based interventions	Constandinides et al. (2011) ⁶⁶	Cross-sectional follow-up	476/401/877	Yes	Palestine	Preliminary results indicate at least four years durability of effects in Palestine study

Additional comments & notes on cultural adaptation

Level

Aims

Program

References

Design

Sample size (boys/girls/total)

Control group

Region

Poulligny et al. (2007)⁶

International Labour Organisation et al. (2004)⁷

Community-based rehabilitation

Report

n/a

n/a

n/a