Implementation of a mental health care package for children in areas of armed conflict: a case study from Burundi, Indonesia, Nepal, Sri Lanka, and Sudan

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Implementation of a Mental Health Care Package for Children in Areas of Armed Conflict: A Case Study from Burundi, Indonesia, Nepal, Sri Lanka, and Sudan

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Abstract

A recent review demonstrated that mental health problems are a leading cause of health-related disability in children and adolescents worldwide. Even though children and adolescents constitute around 50% of the population in low- and middle-income countries (LMICs), their mental health needs are generally neglected. This is especially the case in settings where children are surrounded by perpetual violence and poverty. Violence may impact mental health and broader aspects of psychological and social well-being. This situation requires an intervention response that is comprehensive, as well as affordable, effective, and feasible to scale up.

Recent reviews have demonstrated that the evidence base for effective mental health interventions for children in LMICs, and specifically for children in areas of armed conflict, is slowly accruing. Violence may impact mental health and broader aspects of psychological and social well-being. This situation requires an intervention response that is comprehensive, as well as affordable, effective, and feasible to scale up.

The Child Thematic Program started in September 2004 in Burundi, Sudan, Sri Lanka, and Indonesia. Nepal was added to the program in July 2006. From the start, the care package was based on a public health model to include prevention, treatment, and rehabilitation interventions.

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Abbreviations: CBI, Classroom-Based Intervention; LMICs, low- and middle-income countries
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The Health in Action section is a forum for individuals or organizations to highlight their innovative approaches to a particular health problem.
The program was implemented through a number of partner organizations (Church World Services, Indonesia; Shantiham, Sri Lanka; Transcultural Psychosocial Organization, Nepal; HealthNet TPO, Burundi and Sudan).

A group of facilitators received a brief training (15–20 days) for the community-level activities and Classroom-Based Intervention (CBI). Locally available counselors were trained (approximately three months) to deliver mental health interventions to children in need of further indicated care. See Table 1 for information on the context and program in each country.

**Implementation**

The multi-tiered care package consisted of a variety of interventions. The first tier comprised mental health promotion activities, aiming to increase adaptive adjustment and community resilience. This tier’s activities included running peer groups, which were recreational activities combined with theme-centered group discussions for children without indication for care. Also, it included community sensitization and psycho-education to increase awareness of the mental health needs of children, as well as of existing coping strategies and resources. The second tier consisted of interventions that targeted subgroups of children with elevated psychosocial distress. This tier included a structured group intervention (CBI) aimed at decreasing symptoms of distress and strengthening protective factors. The third tier comprised treatment for children with severe mental health problems. This tier’s actions included providing individual counseling to reduce symptoms and improve functioning. Children requiring specialized treatment were referred to a psychiatrist by the counselors, whenever necessary and possible. These interventions are further explained below, and Figure 1 presents the distribution of uptake of these interventions within the program (all sites combined).

The first step in implementing the care package was to introduce the program to the communities and assess needs through qualitative research. This stage involved receiving approvals from local stakeholders, conducting community awareness and sensitization sessions about the psychosocial and mental health needs of children, enlisting community participation and ownership, and increasing empowerment in dealing with the problems of youth.

In the second step, all children in schools in the program’s catchment areas were screened for psychosocial distress using a newly developed instrument (see below) [16,22]. A prescreening briefing for children and parents was conducted to provide information on the program’s objective and process (i.e., availability of different interventions). Furthermore, this

![Figure 1. Service uptake of core interventions within the care package.](https://doi.org/10.1371/journal.pmed.1001371.g001)

**Table 1. Program implementation details for each country.**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program sites</strong></td>
<td>Burundi</td>
</tr>
<tr>
<td>Program sites</td>
<td>Three northwestern provinces where hostilities continued until 2009</td>
</tr>
<tr>
<td>Conflict</td>
<td>Burundi has been affected by killings and violence along ethnic and regional lines, re-erupting in a civil war from 1993 until 2003. Fighting between the Tutsi-dominated national army and rebel groups from the Hutu majority killed 300,000 and displaced over 1 million people.</td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>35,266</td>
</tr>
<tr>
<td>Cost per user (€)</td>
<td>5.31</td>
</tr>
</tbody>
</table>
briefing aimed to reduce the risk of stigma being associated with the screening.

In the third step, children scoring above a screening cutoff were offered CBI. This standardized intervention consisted of 15 sessions of 1.5 hours over five weeks involving cognitive behavioral techniques (psycho-education, strengthening coping, and guided exposure to past traumatic events through drawing) and creative expressive elements (cooperative games, structured movement, music, drama, and dance) with groups of around 15 children. All other children were offered the opportunity to participate in structured recreational peer group programs (these included sports activities, meditation and yoga, and games), including a psycho-educational element, taking place in the schoolyard. These groups served as an alternative intervention to CBI, to reduce stigma and to strengthen existing resilience by encouraging social support systems and normalization.

In the fourth step, children with sustained and serious mental health problems after termination of CBI were referred to the next tier of the system: problem-solving counseling, either individually or with their families (parental psycho-education sessions). The average number of counseling sessions ranged from 2.2 to 7.5, depending on the country. Throughout the program, biweekly supervision by a psychologist or senior counselor was provided for both the facilitators of CBI and the counselors providing treatment for children with more severe problems.

In the fifth step, children identified by counselors as having psychiatric problems were referred to a mental health specialist (if available), with follow-up and case management by the counselor. To maximize access to care, most interventions were offered within a school setting and implemented by people trained in the communities in which the interventions were implemented. Offering services outside the health sector was intended to minimize levels of stigma, and to increase involvement and mutual collaboration in often fragmented local communities. In this way, access to care was available to 96,718 children and parents.

Impact and Barriers: The Interplay between Practice and Research

Beyond the implementation of services per se, the program aimed to work towards an evidence-based approach to the provision of psychosocial and mental health services. This was achieved by combining practice-based evidence, generated through an elaborate monitoring and evaluation system, with a number of scientific studies embedded within real-life practice. The interaction between research and practice allowed for continuous fine-tuning or adaptation of the care model being implemented. Table 2 summarizes the mutual influence of research and implementation, based on four identified key principles: multilevel care, effectiveness, context sensitivity, and resilience. Table 2 also provides an overview of the main outputs stemming from the program.

1. Multi-Layered Support

Following the overarching aim to develop a care system, an initial focus on individual components of the package gradually shifted to a focus on measuring the impact and feasibility of the overall package. Feasibility (e.g., client satisfaction and cultural sensitivity) and access to care were assessed through practice-driven evaluations. Results allowed for changes to be made in the delivery framework. For example, the level of stress among facilitators and counselors was found to be too high across the settings, which required a change in assigned roles and increased supervision [16]. Furthermore, expenses related to the development and implementation of services were closely monitored to allow cost analyses.

A key challenge of this care system was ensuring that the different interventions were appropriately matched with the target population, and ensuring the successful flow of clients between the components of the system. To facilitate this process of intervention allocation, an instrument was developed to identify children with elevated psychosocial distress. The Child Psychosocial Distress Screener is a multidimensional tool that combines assessment of children’s problems (e.g., distress and school absenteeism) and their protective factors (e.g., coping and social support). To ensure context sensitivity across different settings, we developed a core template of seven items, with content of adjoining probes specified in each setting through qualitative enquiry. We first assessed construct and concurrent validity and other psychometric properties within one setting (Burundi), and then assessed construct validity across the different settings using multi-sample confirmatory factor analyses [17,22]. The assessment confirmed the reliability and validity of the instrument across settings and indicated an optimal cutoff point for detecting children with an indication for psychosocial care. Consequently, the instrument was integrated into the practice of the care package. As a result of screening outcomes, 59% of children were offered the opportunity to participate in recreational peer group activities, and 41% were offered the opportunity to participate in the more therapeutic group intervention (CBI). From the latter group, 7% were referred for counseling or to other mental health specialists (1%). (Percentages are based only on children that entered the screening process, which explains why these numbers differ from those presented in Figure 1.) Through this triage method, we were able to systematically provide access to support or care services to the entire school-going population in the program catchment areas. The downside of this approach was that children who were not going to school, often a particularly vulnerable group, were not reached. In a later stage of the program this was adjusted by asking key community members to help in the outreach to this group of children.

2. Effectiveness of Care

Given the limited evidence base for interventions for children in LMICs, an initial priority was to establish the efficacy of the utilized interventions. Cluster randomized trials in Burundi, Indonesiа, Sri Lanka, and Nepal evaluated the efficacy of CBI. Evaluated treatment outcomes included changes in symptoms (e.g., post-traumatic stress disorder, depression, anxiety, and aggression), functional impairment, and positive attitudes and behaviors (hope, prosocial behavior, and coping). Whilst CBI showed efficacy in Indonesia, Sri Lanka, and Nepal (with differential effects across populations and outcome measures) [18–20], preliminary results in Burundi did not indicate significant lasting change. As a result of the latter findings, we decided to refocus our intervention efforts in Burundi to target children within their family context. To develop the family-based intervention, we used a new strategy that combined global and local knowledge into a context-sensitive modular intervention. The strategy comprised a qualitative phase to determine intervention objectives, a global expert panel to prioritize intervention modalities, a systematic literature review and distillation of evidence-based treatments, and stakeholder meetings to explore sociocultural acceptability of the intervention [23]. The intervention that we developed through this approach is now being implemented and tested in Burundi and South Sudan.
Besides establishing efficacy, we needed more knowledge on how intervention effects may have been sorted, given the differential effects across settings. For the counseling intervention we explored treatment processes by single case studies. In these studies we aimed to systematically associate client changes (measured with quantitative indicators) to treatment processes (qualitative data), in order to identify treatment processes underlying effective counseling. We learned that counselor performance was highly stable (i.e., there were counselors with consistently positive results and counselors with consistently negative results). which emphasized the importance of our clinical supervision and evaluation mechanisms, for example, for early identification of counselors performing poorly. Furthermore, results showed that the combination of universal treatment variables (therapeutic alliance and trust, and a non-moralistic and non-normative counselor) with specific treatment components (active problem-solving, narrative exposure, and cognitive restructuring) was associated with positive client trajectories [21]. These findings resulted in changes in the training curricula and led to the exploration of a components-based intervention approach.

### 3. Context Sensitivity

While we used a generic framework across settings, the program was receptive to differences in sociocultural context and care systems. To accommodate these differences, we started the program with qualitative research into how conflict-affected children in the different settings, which helped us understand the context and specific needs of the children in the areas where the program was planned [11]. This study established the importance of aspects of community resilience in the different settings. For example, in Burundi, where creating associations is commonly seen as a viable strategy to increase community mobilization, “child-to-child self-help groups” were established as part of the care package.

From practice we learned the importance of adapting psychosocial treatments in new settings. For example, while we had made adaptations in the interventions (including changes in language, therapist-client relationships, use of games...
and metaphors, and therapeutic concepts), in some settings we were faced with resistance from the community to the group-based intervention (e.g., in Sudan, the group intervention that included hand gestures to show rain and sunshine was perceived as a new religion).

4. Utilization of Existing Resources
The systematic literature review we undertook demonstrated the lack of available evidence for primary-prevention level mental health interventions for children in complex emergencies [24]. Indeed, one of the most challenging aspects of building a care system was to integrate the package within existing community structures and to make use of existing resources. In the program, peer recreational and support groups were included, as explained above. However, more integration is required for a locally relevant and sustainable primary prevention approach. As a result of this, in light of the results of the literature review, we initiated a new strategy within the overall framework, namely, to work with parent-teacher associations in order to promote the psychosocial well-being of children within the school context. Overall, we feel that a shift in emphasis may be required from epidemiology to understanding health systems, when conducting research in conflict-affected settings.

Looking to the Future
Findings from the different studies presented above have reinforced the notion that a “system of care” approach, however rudimentary, is a necessity not a luxury [25]. We posit that to establish psychosocial and mental health care for children, a care package should be tailored to the context and target population; this can be accomplished by assembling a set of practice components [23,26]. This approach does not focus narrowly on either a community-based psychosocial intervention (e.g., recreational activities for distressed children) or more specialized psychotherapeutic care (e.g., cognitive behavioral therapy for symptoms of post-traumatic stress disorder); rather, it prioritizes the facilitated transfer of clients between components along a continuum of care, thereby aiming to broadly cover a population at large [2]. Once services are available, non-stigmatizing detection of children in need of care is an integral strategy to improve access. In our case, a two-stage case-identification strategy of school-based detection followed by service-provider-based assessments proved feasible. The accuracy of such a stepped procedure should be evaluated in the future, as it is important in optimizing the match between access to, and provision of, mental health care. To improve upon present limitations to the program, future implementation and research should further include the following: increased emphasis on primary prevention interventions that target resilience at the bottom of the public health pyramid (e.g., integration with other humanitarian initiatives or poverty reduction programs) [0], filling a gap in family approaches [7], increased attention for severe child and adolescent mental disorders (e.g., developmental disorders) through treatment procedures described by the World Health Organization’s Mental Health Gap Action Programme [10], and balanced attention to conflict-specific stressors and the burden of daily stressors [27]. Furthermore, future work needs to focus on developing and evaluating strategies to integrate the care package into existing governmental structures to ensure sustainability.

While we promote the current emphasis on accountability and the need to demonstrate the effect of interventions in humanitarian settings, we advocate a broader research agenda that also focuses on care/health system variables, as well as implementation and intervention mechanisms [28].

In the program described here, embedding research in a service delivery framework allowed for generating, and responding to, important implementation issues such as task-shifting, costs of care, burden for caregivers, and how to make interventions culturally compatible.

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Author Contributions
Wrote the first draft of the manuscript: MJ. Contributed to the writing of the manuscript: WT DS PN NL IK JDJ. ICMJE criteria for authorship read and met: MJ WT DS PN NL IK JDJ. Agree with manuscript results and conclusions: MJ WT DS PN NL IK JDJ.

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