



REVIEW

June 2005

**How effective are measures taken
to mitigate the impact of direct
experience of armed conflict on
the psychosocial and cognitive
development of children aged 0–8?**

Review conducted by the Early Years Review Group

The EPPI-Centre is part of the Social Science Research Unit, Institute of Education, University of London

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CONFLICTS OF INTEREST

There are no conflicts of interest.

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LIST OF ABBREVIATIONS

CBCL	child behaviour checklist
EPPI-Centre	Evidence for Policy and Practice Information and Co-ordinating Centre, Social Science Research Unit, Institute of Education, University of London
ETES	exposure to traumatic events scale
in-country	in country of origin of refugee
NGO	non-governmental organisation
OECD	Organization for Economic Co-operation and Development
out-country	not in country of origin of refugee
PTSD	post-traumatic stress disorder
RCT	randomised controlled trial
REEL	Research Evidence in Education Library (http://eppi.ioe.ac.uk/reel/)

NOTE ON TERMINOLOGY

In this report, the terms ‘majority world’ and ‘minority world’ have been used to mean, respectively, the less industrialized and more industrialized nations. These terms refer to the fact that the less industrialized nations contain the majority of the world’s population.

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SUMMARY

Background

This report looks at research that assesses the effectiveness of measures taken to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0–8.

War is characterised at the beginning of the twenty-first century by its impact on civilian populations. Whereas the casualties of war were once predominantly the contending armies, now eight out of ten casualties are likely to be civilians, of which children are estimated to form 90%, according to a 2002 UNICEF (United Nations Children's Fund) report. The same report highlighted that over a million children were orphaned or separated from their families, 12 million left homeless, 2 million slaughtered and 6 million seriously injured or permanently disabled, as a result of armed conflicts in the last decade of the twentieth century. Globally, some 20 million children are currently affected directly by armed conflict. While previously the impact of war on children has been equally catastrophic, the sheer scope and breadth of its recent and current impact on children is unprecedented. As well as the threat to their physical health, very young children are likely to be vulnerable from an educational, psychosocial and welfare point of view, and there are many reports of severely traumatised children who have escaped from war zones. These include children actively engaged in military activities, as a recurrent feature of current armed conflict is the use of child soldiers, some as young as seven. Evidence is strong that the psychosocial and cognitive implications for the youngest children affected by armed conflict may be particularly serious and long lasting.

Research into the development of young children in situations of armed conflict has identified a lack of evidence for the effectiveness of interventions and called for careful evaluation and action research. One in-depth review of studies of psychosocial group intervention programmes for children fleeing from armed conflict in majority world countries found that most of the authors only gave anecdotal evidence for the effects and therefore the effectiveness of the programme in terms of child outcomes.

As well as informing practice in relation to children affected by armed conflict, it is expected that the conclusions of this review will be of relevance in relation to children experiencing other stressors, such as AIDS, environmental disasters or sexual exploitation. However, the search for effective interventions along the lines described in this review, can only ever be justified alongside concentrated efforts to address and eliminate the horrifying effects of armed conflict, of which children are, totally unjustifiably, the primary victims.

Aims

The current review had two stages. The aim of the first stage of the review was to produce a systematic map of research by identifying and describing studies that examined the outcomes for children of interventions to mitigate the effects of

direct experience of armed conflict on children aged 0–8. As a second stage of the review, we reviewed a smaller set of studies in-depth. To do this, we applied further criteria aimed to ensure that the research under consideration provided reliable and sufficient information for effective utilisation.

Review questions

The broad review question is as follows:

How effective are measures taken to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0–8?

Methods

The Review Group included academics and practitioners in care and education. This was supplemented by the Advisory Group, which included a wider range of academics and practitioners who were consulted at various stages in the procedure: the formulation of the research question, and the writing of the protocol and the draft report.

Initial work concentrated on the development of definitional statements, inclusion criteria and codes to describe studies. Armed conflict was defined as any experience of armed conflict: that is, conflicts on a continuum ranging from war between states to organised crime and large-scale violations of human rights. Inclusion criteria for the map were that the provision under study should be an intervention aiming to mitigate the effects of armed conflict on children; that the children under study should be aged eight or under and have experienced armed conflict; that the provision should be aimed at psychosocial or cognitive development or wellbeing; and that the study should be evaluative, and published in English in or after 1939.

A highly sensitive search strategy was developed based around terms describing children under eight and terms relating to armed conflict; major databases, websites and library catalogues were searched. The abstracts were scanned to make an initial decision about whether they met the inclusion criteria. Those where determination was positive or unclear were obtained, and where they still met the criteria on examination of the documents, they were keyworded using generic and review-specific keywords.

Following this exercise, a map of relevant literature was produced and further criteria were developed for the in-depth review. These were that the study should be a primary study and not a review, and should include a comparison group. Most importantly, they referred to quality of reporting. Studies were required to state the aims of the research unambiguously, specify the study design, specify the tools used to collect the data, and give details about sampling and recruitment methods. Data extraction was undertaken in pairs, using guidelines to describe and apply weight of evidence to studies. A synthesis was conducted that pulled together the characteristics, findings and weight of evidence of the studies as a whole.

Results

The map includes 16 papers, describing 13 studies. All the studies report interventions relating to conflicts in Africa or the former Yugoslavia; most took place in the country of conflict or a neighbouring country. Most provide a range of complementary interventions, including direct interventions with children, interventions with parents and/or foster carers, and interventions with service providers.

Three of these 13 studies, contained within six reports, met the further criteria for the in-depth review. These are an evaluation of a psychosocial intervention for Bosnian refugees (Dybdahl, 2001b); an evaluation of two different psychosocial interventions for Sudanese refugees in Ethiopia (Paardekooper, 2002); and the evaluation of a reorganised orphanage for Eritrean refugees (Wolff *et al.*, 1995a). While children in our target age group were among the study populations in all three studies, only the study in Bosnia focused expressly on the target age group of our review. The context of the studies selected for the map did not vary significantly from that of the studies selected for the in-depth review.

Research methods varied. All three studies selected for the in-depth review used comparison groups; two used random allocation to these groups. The studies in Bosnia and Ethiopia were prospective; the Eritrean one was retrospective. In terms of weight of evidence, the Dybdahl study was rated high, the Paardekooper study was rated medium-high and the Wolff *et al.* study was rated medium.

All three studies targeted refugee children from mixed social groups in the same country who had extensive direct experience of armed conflict and flight, and who were living under exceedingly difficult material circumstances. The overall context of the three studies varied considerably, ranging from an intervention study that used mothers as the mediators of the intervention for their young children (Dybdahl, 2001b) to a study (Wolff *et al.*, 1995a) that evaluated an intervention for children whose parents had been killed, were missing or presumed dead. In between the two was Paardekooper's (2002) study of an intervention aimed at refugee children living with one or two parents.

Paardekooper (2002) and Dybdahl (2001b) provided statistically significant evidence of a beneficial impact of interventions on children, including children in the age group 0–8, as compared with a comparison group. In both cases, the interventions found to be beneficial focused on 'normalisation' of the children's daily living situation and on strengthening their coping mechanisms. The reorganisation of the Eritrean orphanage into family groups (Wolff *et al.*, 1995a) could also be considered a normalising strategy. In the case of both Paardekooper (2002) and Wolff *et al.* (1995a), the interventions involved the active participation of children in identifying coping strategies. Paardekooper found that the development of problem-focused coping strategies was more effective than emotion-focused ones. Although Paardekooper argued for the effectiveness of group interventions, the review found no studies of one-to-one interventions with which to make a comparison. However, one-to-one studies tend to be reported as case studies, which were excluded from the review, and this limited the comparisons which were possible.

The range of studies found provide little evidence of effects on children aged under four, and we cannot be sure that the conclusions described in this report are generalisable to this age group.

Conclusions

We consider that the three studies included in this systematic review constitute evidence that interventions can help improve aspects of psychosocial functioning in children and that the evidence is strongest for group interventions focusing on normalisation. This review also shows that valid evaluations can be attempted even in situations of continuing armed conflict, and that these therefore serve as a significant example to all those working with and/or researching interventions with young children affected by armed conflict.

If we accept that armed conflict affecting young children is not likely to be totally eliminated in the near future, then we implicitly accept that local and international state agencies, non-governmental organisations (NGOs) and individuals will continue to explore optimal ways of supporting children's development and improving their living conditions under such circumstances. From this follows the need to continue the search for effectiveness.

Policy recommendations

- Support for group interventions with young children affected by armed conflict should definitely be a policy priority, both with displaced populations and refugee communities, and in-country or out-country.
- The extent to which a proposed intervention focuses on 'normalisation' should inform policy decisions about practical support and funding. Evidence from all three studies suggests that interventions focused on 'normalisation' of the daily living conditions of children affected by armed conflict and strengthening their coping mechanisms were more successful than other types of interventions or more useful than 'usual services'. Evidence of the effectiveness of residential care for this group is less convincing.
- The involvement of non-policy-maker service users in these processes is now commonly held to be critical in developing sound interventions. This approach should encompass the perspectives of both adults and children as active or prospective recipients of interventions.
- The role of children's 'agency' in achieving significant positive results; although it is not supported unequivocally by the review's findings, this may eventually have to be taken into account in policy decisions about interventions with this target group.
- The impact of context-specific factors and the role of indigenous practitioners in designing interventions goes way beyond acting as interpreters/translators of Western/Eurocentric approaches. Further research may confirm that these factors are likely to be a decisive influence on the effectiveness of any such interventions. However, such a conclusion cannot yet be drawn.

Practice recommendations

- Up-to-date and robust evidence needs to be available to practitioners in accessible formats. Government agencies should produce and disseminate authoritative research summaries and digests via the internet, programmes of

practitioner seminars, and so on. NGOs should expand their research and development capacity and invest in strengthening the capacity of their employees and the agencies they fund, to be reflective and critical users of research findings.

- In order for practitioners to be well placed to use research evidence in shaping interventions, an adequate project development phase should be built into project management plans. Such a phase would allow for surveying the available information on effectiveness.
- The importance of well-designed evaluations cannot be underestimated and funding bids should explicitly request support for formative and summative external evaluation as a matter of course. NGOs should moreover enable and support their staff to engage in ongoing monitoring and self-evaluation.
- A great deal of work remains to be done on developing pathways for optimal co-operation and improving mutual understanding of culture-specific contextual features between practitioners from the countries affected by armed conflict, particularly those in majority world countries, and those from minority world countries.

Research implications

- The importance of cross-cultural understanding needs to be recognised in designing evaluative research; in the relationships between minority and majority world practitioners and researchers; and in the relationships between users and practitioners and/or researchers.
- Active encouragement and support is needed for the rigorous evaluation of interventions, employing robust methodologies. Sufficient resources and evaluation expertise should also be allocated strategically and on an international scale to develop what is currently an extremely patchy evidence base for these interventions.
- A systematic review of qualitative research and the case study literature on one-to-one interventions would bring under consideration a wider range of interventions undertaken in the minority world, where the latter strategy is more widespread.
- Further research is urgently needed on the interaction between genetic and environmental factors in responding to adversity.
- The issue of children's agency deserves further research attention, both in this and other contexts, as does the concept of resilience.

1. BACKGROUND

The broad focus of the Early Years Review Group is research on the impact of various policies that promote early education and care. In this report, we look at research that assesses the impact of interventions to mitigate the effects of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0–8.

In this chapter, we explain the background to our choice of topic for this review. We provide working definitions of our terms, and identify several definitional and conceptual issues that led us to narrow our focus as the review progressed. We indicate what policy and practice issues have informed our review, and what wider research we have drawn upon. We outline our own composition and perspective as a Review Group, and comment on other user perspectives, besides those of our members, that have contributed to the review.

1.1 Aims and rationale for current review

This review is the second of a series which aims to identify the impact of various policies that promote early education and care. The Review Group's first review focused on the impact of out-of-home integrated care and education settings (Penn *et al.*, 2004).

The current review had two stages. The aim of the first stage of the review was to produce a systematic map of research by identifying and describing studies that examined the outcomes for children of interventions to mitigate the effects of direct experience of armed conflict on children aged 0–8. As a second stage of the review we reviewed a smaller set of studies in depth. To do this, we applied further criteria aimed at ensuring that the research under consideration provided reliable and sufficient information for effective utilisation.

Initially, the review aimed to seek information concerning any studies that met the general criteria of evaluating an intervention aimed at children aged 0–8 with direct experience of armed conflict and reporting on the outcomes for children. We also sought systematic reviews of such studies. The main point of this first stage was to map in detail the attributes of interventions that have been evaluated, including the countries where evaluations were conducted, the range of activities undertaken and the types of children involved, provided these aspects were recorded in the study. The bibliographic details of all these studies are now searchable using these codes via the internet as part of the EPPI-Centre's Research Evidence in Education Library (REEL) at <http://eppi.ioe.ac.uk/reel/>.

The review then progressed to a second stage, the in-depth review. To reach this point we applied a second, more restrictive, set of inclusion criteria. These acted as a filter on the initial body of studies and led to the selection of a smaller group of studies to be described in greater detail, critically appraised and then synthesised. The detailed descriptions and quality assessments of these studies are also accessible via REEL.

We thus aimed to provide the following:

- a systematic review of existing research which could inform policy, practice and research
- systematically coded and searchable data extracted from existing reports
- a range of reports and report summaries targeted at different audiences, such as practitioners and policy-makers
- an indication of gaps in the research which need to be filled

1.2 Definitional and conceptual issues

The definitions we have adopted are as follows:

Armed conflict: any experience of armed conflict, i.e. conflicts on a continuum ranging from war between states to organised crime and large-scale violations of human rights (Kaldor, 1999, p 8)

Directly affected: children who have themselves experienced daily life in an area of armed conflict or who have experienced separation from families as a result of armed conflict

Effective: produces a positive change in outcomes

Impact: in the sense of outcomes for children, including wellbeing; mental health; cognitive change; behavioural change; emotional development; long-term social integration; and social and emotional adjustment outcomes, such as juvenile delinquency and school attendance rates

Measures: education/care/therapy/other forms of support

Processes: analysis and discussion about the nature of the intervention, i.e. how any changes appear to have been effected, such as through particular staffing arrangements; pedagogies; choice of curriculum; choice of therapies; health-promoting activities; access; parental/family/carer support; and funding

1.3 Policy and practice background

Many millions of people alive today have directly experienced conditions of war or armed conflict. War is characterised at the beginning of the twenty-first century by its impact on civilian populations. Whereas the casualties of war were once predominantly the contending armies, now eight out of ten casualties are likely to be civilians (Kaldor, 1999, p 8). Of this increasing number of civilian casualties, children are estimated to form 90% (UNICEF, 2002). Only ten years ago, among those civilians, child victims alone outnumbered the sum total of soldiers killed or disabled (UNICEF, 1995, p 2). A recent UNICEF report (2002), with early childhood as its central theme, highlights that over a million children were orphaned or separated from their families, 12 million left homeless, 2 million

slaughtered and 6 million seriously injured or permanently disabled, as a result of armed conflicts in the last decade of the twentieth century. While the previous impact of war on children has been equally catastrophic, as documented in Marten's (2002) historical anthology, the sheer scope and breadth of the more recent impact of armed conflict on children are unprecedented.

The 'new wars', as Kaldor contends (1999, p 20) do not only involve a blurring of the distinctions between war (usually defined as violence between states or organised political groups for political motives), organised crime (violence undertaken by privately organised groups for private purposes, usually financial gain) and large-scale violations of human rights (violence undertaken by states or politically organised groups against individuals). The new warfare also '...borrows from counterinsurgency techniques of destabilisation aimed at sowing "fear and hatred"'. Hence the dramatic increase in refugees and displaced persons and the violence that is primarily directed at civilians (Kaldor, 1999, p 8).

The impact of armed conflict is particularly harsh on children (Machel, 2001) and infringes their rights as laid down in the 1989 UN Convention on the Rights of the Child (Harvey, 2003). Quite apart from the threat to their physical health, very young children are likely to be vulnerable from an educational (Sommers, 2002), psychosocial (Wessels and Kostelny, 1996) and welfare point of view (Machel, 2001), and there are many reports of severely traumatised children who have escaped from war zones (Cunninghame *et al.*, 1999). These include children actively engaged in military activities, as a recurrent feature of current armed conflict is the use of child soldiers, some as young as seven (Wessels, 2000).

The evidence suggests that even children who do not experience war first hand are affected by images of war, as claimed by Janet Moyles (in personal communication with the authors detailing her work in progress). Moyles and her colleagues are developing an educational tool to enable young children to discuss images of war. In this review, though, we wish to consider the former group: that is, children affected directly by war. The number of such children in the UK is fortunately relatively small and, apart from the child victims of the continuing civil conflict in Northern Ireland, are found mostly in refugee communities and among asylum seekers, but they are amongst the most traumatised of children (Richman, 1990).

However, the number of children affected worldwide by war is considerable, and government, inter-governmental and non-governmental organisations are involved in organising reconstruction in war-torn countries and providing practical support, including education, for millions of refugees. Several manuals exist which address the challenges posed to those trying to help children traumatised by war (Cunninghame *et al.*, 1999; Macksoud, 2000; Richman, 1993; Richman, 1996), but the interventions described have not usually been evaluated systematically for their effectiveness.

The understanding of what education and support services can provide for war-traumatised children are forged in the West (Richman, 1993) and it is important to be able to understand and deconstruct the assumptions that underlie such efforts (Boyden and Mann, 2000, p 14; Wessels and Monteiro, 2004). As far as interventions with adults are concerned, according to Bracken, Giller and Summerfield (1995, p 1075):

In many ... societies different conceptions of the self and its relationship to the social and the supernatural ... mean that explorations of inner emotions and conflicts have less relevance than in the West. In short, helping to alleviate distress by the exploration of intrapsychic cognitions, emotions and conflicts is a form of healing somewhat peculiar to Western societies and of doubtful relevance to societies holding different core assumptions about the nature of the self and illness.

Bemak and Chung (2004, p126) contend that even increased awareness of these issues has not yet sufficiently impacted on the design of relevant interventions:

Despite the increased attention given to culture and mental health, the basic Western psychological theories continue to focus on individualistic societies rather than on collectivistic cultures. This negates many of the cultural origins of the refugees of today, where family, community, clan and/or tribe have far more importance than the individual.

Other researchers contest this position, however; they point out that the difference primarily relates to the fact that the responsibilities of the individual in relation to family and community may differ, with stronger emphasis on family/communal responsibility (Davis, 1987).

While Summerfield (1998) further explores the role of social processes in shaping the impact of war at the level of the individual, community and society, Bracken (1998) argues that the current discourse on trauma, in particular the development of the concept of post-traumatic stress disorder (PTSD), has promoted a strongly individualistic focus at the expense of the social dimension of suffering. This view is echoed by Wessels and Monteiro (2004, p 328). They cite a range of relevant studies (Friedman and Marsella, 1996; Nsamenang and Dawes, 1998; Punamäki, 1989) in support of their argument that:

In examining psychosocial needs and structuring interventions in a war-torn context, Western-trained psychologists tend naturally to focus on well-validated concepts such as 'trauma' and 'post traumatic stress disorder' ... whereas in war zones, people face multiple, chronic stressors, not least of which is poverty ... the use of such terms tends to medicalise problems that are profoundly political and social.

Moreover, for children, according to Paardekooper (2002, p 113), the relevant literature, including studies by Eth and Pynoos (1985) and Mahjoub (1995), leaves it open whether a clearly defined complex of symptoms such as adult PTSD can be identified at all. However, Marques (2001, p 25), in her study of the role of traditional healers in the rehabilitation of former child soldiers in Mozambique, argues that:

Despite the several critiques often formulated by specialists in this area, western methods still have their validity in addressing the social psychological needs of children affected by warfare, as long as they are adapted to the cultural reality of those who are being helped.

This summarises the policy and practice background against which the present systematic review took place.

1.4 Research background

Evidence is strong that the psychosocial and cognitive implications for the youngest children suffering the impact of armed conflict may be particularly serious and long lasting (Dubrow and Garbarino, 1989), even though, for example, the number and length of stressors and the availability of adult support have been shown to mediate its effect (Wessels and Monteiro, 2004, p 328), as has the meaning assigned to the events (Punamäki, 1996).

Research into the development of young children in situations of armed conflict has identified the lack of evidence for the effectiveness of interventions and called for careful evaluation and action research (Wessels and Kostelny, 1996, p 22). Practitioners, academics and policy-makers worldwide stand to gain considerably from evidence for the effectiveness of interventions aimed at this group of children in planning and rolling out support programmes.

Even if one accepts the arguments on the limits of Western psychosocial approaches discussed in section 1.3, this does not detract from the universal need to explore whether any interventions in this area, whatever their theoretical underpinning and source of their funding, have the intended and beneficial outcomes for the children in question and for their families and communities. The possibility of doing harm should always also be considered. For example, Rose *et al.*'s (2002) review of psychological interventions for people in trauma found evidence for possible adverse effects of commonly used interventions.

This urgent need is well articulated in Paardekooper's (2002, p 76) in-depth review of 19 studies of psychosocial group intervention programmes for children fleeing from armed conflict in war-stricken communities in majority world countries. Most of the authors only gave anecdotal evidence for the effects and therefore the effectiveness of the programme in terms of child outcomes.

Such effectiveness data are of the greatest importance to all who care about, or contribute actively to, mitigating the impact of the direct experience of armed conflict, which currently characterises the lives of more than 20 million children worldwide. The present review hopes to make a contribution to this effort.

This review sets out to address this gap in our knowledge by bringing together the existing body of evidence that meets the criteria for robust research which are outlined below. In doing so, the Early Years Review Group is responding to the call for action contained in the expert report on the impact of armed conflict on children prepared for the General Assembly of the UN in 1996 by Graça Machel. Given the remit of the initiative through which this review is part-funded and which is focused around educational interventions and contexts, the review will not include studies of strictly medical interventions, except where these also address aspects of emotional health, development or wellbeing.

It has been argued that there is a need to explore whether protective factors identified for children suffering chronic and less severe hardship do apply when stress is extreme (Boyden and Mann, 2000, p 14; Ressler, 1992). While recognising that there are distinctive features to each one of a range of adversities in which children find themselves, such as armed conflict, prostitution or environmental disasters, Boyden and Mann propose that similar factors may underlie children's vulnerability, resilience and coping in such situations and in

different cultural and social settings (2000, p 4) and that such general principles should be more widely shared, once agreed upon.

The present review is therefore likely to make a useful contribution to the wider study of children in extreme adversity. According to United Nations (2002b) figures, 10.4 million children have been orphaned in the current AIDS pandemic. This is yet another area to which the findings of this review may be pertinent.

1.5 Authors, funders and other users of the review

The members of the Early Years Review Group (listed on page i) selected and defined the review's scope and undertook most of the analysis. They were supported by an Advisory Group, with which they kept in touch, and whose members commented on the proposed methods and findings at various key stages and assisted with dissemination. The Review Group members are all named authors of this review. The Review Group membership is mainly, but not exclusively, academic. Perspectives of members of the Group reflect experience of researching early childcare and education systems worldwide (HP), work in both daycare policy and academic arenas (EL), information science expertise, specialising in early years (SP), in-depth experience as a consultant and researcher for UNICEF (RD), early years practice (VB) and educational psychology practice (ZS).

Practitioners were involved in helping set the original question. The Review Group met regularly, and the Advisory Group – including practitioners (Judy Stephenson, Naomi Richman) and policy representatives (Tina Hyder, Mike Wessels) – was consulted at strategic points by email and telephone. Review and Advisory Group members set up meetings for their constituent groups, at which members of the Review Group explained the research questions and review process, and invited comments.

The Advisory Group contained several international external advisers whom we have used to clarify certain points; academics from other disciplines, such as health and social care; and a variety of practitioner/policy-maker perspectives, including the head of a children's centre (JS). These Advisory Group members have organised meetings for us, at which we have explained the processes of the review and invited comment, thereby reaching wider groups of practitioners and policy makers. This in turn has contributed to the Review Group's deliberations on protocol, and refinement of the research questions.

The review has been funded through the DfES-funded EPPI-Centre, and indirectly through HEFCE for academic members. Administrative support was provided from the School of Education and Community Studies, University of East London. Library support for inter-library loans was provided by the University of East London and the Institute of Education, University of London.

This review will be of interest to early years practitioners, teachers, social and health workers, and a wide range of other professionals who may come into contact with children affected by armed conflict, as well as parents and carers. It should also be of use to policy-makers and NGOs at national, regional and local levels who are involved in resource allocation or the production of relevant guidance about children affected by armed conflict.

1.6 Review questions

The broad review question agreed as an initial stage by the Group is as follows:

How effective are measures taken to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0–8?

After the initial map, a set of criteria relating to research quality was adopted. This covered two broad areas:

- study type: the study should be a primary study (i.e. not a review of other studies) and should include a control group
- reporting quality: the report(s) should provide basic information on the research question, methods used and research sample

Full details of these criteria can be found in Appendix 2.1.

2. METHODS USED IN THE REVIEW

This review employed methods developed for EPPI-Centre educational reviews, which were also used for the Early Years Review Group's first review published on REEL (Penn *et al.*, 2004). This format presupposes end-user involvement, both practitioner and policy-maker, in the design, write-up and evaluation of the review. It also involves a two-stage filtering for the relevant studies identified as part of the review process: first, applying explicit inclusion criteria to the results of highly sensitive searches and quality-assurance processes to produce an initial map of research literature; and, second, applying a more refined set of criteria and detailed description, appraisal and analysis at the stage of the in-depth review. All these processes are set out in detail in this chapter.

2.1 User-involvement

2.1.1 Approach and rationale

The methods used to involve various perspectives in the production of this review have already been touched upon in section 1.5. The Group itself represents a conscious attempt to incorporate a range of perspectives, including several people with direct experience of working with children affected by armed conflict and the design of interventions for them. It includes academics who have experience of working with non-governmental organisations (NGOs) and have undertaken qualitative or quantitative research in the early years area across the education or social care sector or both, and users who similarly represent the range of education, care and voluntary sector traditions in England and other countries.

The group has enlisted the help of the Advisory Group in obtaining user perspectives from policy-makers and practitioners on the applicability of the findings of the review. It should be noted that both the Advisory and Review Group have members with considerable experience in practice and, to an extent, policy in this area.

2.1.2 Methods used

Our review question was initially shaped by the concerns of members of the Early Years Review Group at the start of the 2003 war on Iraq. Specific support at different stages of the review process was sought and received from two members of the wider group in particular (NR and JW). Several members of the Review and Advisory Group were working for pertinent NGOs themselves, or had done so in the past. Several meetings have been held with national researcher and policy groups and further dissemination work is planned. We fully intend to share our findings with a wider group of users. One way this will be achieved is by inviting user perspectives from relevant NGOs and, if forthcoming, these will be available on the REEL website. It is a matter of some regret for us that so far refugee children and parents have not participated in this review and therefore

their perspectives are missing from the implications and conclusions. In any future update of this review, we hope to remedy this omission at an early stage.

We intend to develop a dissemination strategy which will successfully reach potential policy and practice users in the UK and abroad, among them government departments, local government representative organisations, policy research institutes, NGOs and academics. We have already received requests for interim information from a range of policy and practice users, including researchers in the Foreign Office, the World Forum Foundation and nferNelson.

2.2 Identifying and describing studies

2.2.1 Defining relevant studies: inclusion and exclusion criteria

Studies at the mapping stage were included if they met *all* the following criteria:

- i. The provision under study is (or includes) an intervention which aims to mitigate the effects of armed conflict upon children.
- ii. The population under study is children aged eight years old or younger. (The population might also include older children, but needs at least in part, to be in the birth to eight range. In longitudinal studies, outcomes may be measured after children are eight years old but the intervention under study needs to have been experienced by children when aged eight or under.)
- iii. The population under study has direct experience of armed conflict.
- iv. The provision is aimed at psychosocial or cognitive development or wellbeing. The provision is not for treating purely physical problems. Studies of strictly medical interventions will only be included where these also explicitly address outcomes for emotional health, cognitive development or wellbeing, or are interventions in the psychiatric area.
- v. The study is evaluative:
 - It evaluates the impact of interventions on children's outcomes, i.e. using retrospective or prospective single group and/or comparison group designs to assess whether the intervention works well (see EPPI-Centre, 2003a) but not a case study design where children are examined only at the individual level and no findings are presented for a group as a whole, and/or
 - It is a systematic review of such studies, i.e. the review is explicit in its reporting of a systematic strategy used for (a) searching for studies, (b) the criteria for including and excluding studies in the review and (c) methods used for assessing the quality and collating the findings of included studies (EPPI-Centre, 2003a).
- vi. The study is published in English.
- vii. The intervention was reported in or after 1939.

2.2.2 Identification of potential studies: search strategy

Major bibliographic databases and relevant websites were searched. A list is given in Appendix 2.2.

A highly sensitive database search was developed. The search structure and the search terms ultimately used to search databases are also given in Appendix 2.2. In brief, three sets of terms were created: (1) terms to describe children aged up to eight; (2) terms to describe armed conflict; (3) terms to help reduce the retrieval of papers which, though irrelevant, used similar terminology. Where possible, database search engines were then used to search for records featuring one or more of the terms in set 1 and one or more from set 2, but none of the terms in set 3. The terms were searched as free text in the subject, title and abstract fields. It should be noted that some databases listed do not allow for the combination of sets. In these cases, a simplified search strategy was applied. When searching journals (handsearching) and websites, all papers, abstracts, or titles of reports were screened directly, using the inclusion criteria. The reference lists of included studies were also scanned for other relevant reports. The list of journals which were handsearched can be found in Appendix 2.3. The search results were stored in a bibliographic database (EndNote).

2.2.3 Screening studies: applying inclusion and exclusion criteria

The abstracts (and titles in a small number of cases) were screened by two reviewers (VB and SP), using the inclusion criteria detailed above. The reviewers were over-inclusive at this stage, only excluding items when it was clear from the information available that a full report of the study would not meet the inclusion criteria. The inclusion criteria were further applied by one of these reviewers (SP) while obtaining reports. The reports that then remained were allocated to other Group members, who also applied the criteria while keywording.

2.2.4 Characterising included studies

Full reports were obtained and first classified according to a standardised 'core' keywording system developed by the EPPI-Centre (EPPI-Centre, 2003a). This classifies studies in terms of: the country in which the research was carried out; the educational focus; the population focus; and the broad study type. In addition, a second set of keywords was developed to meet the specific needs of the review, covering further details of the setting; characteristics of the intervention(s); and characteristics of the children receiving the intervention(s). Both sets of keywords can be found in Appendix 2.4.

2.2.5 Identifying and describing studies: quality-assurance process

One reviewer (EL) and a member of the EPPI-Centre (RR) both applied the inclusion criteria independently to a sample of abstracts (2.5% each). For this, four blocks of five pages were selected from different parts of a printout alphabetised by author. Their decisions on inclusion/exclusion were compared with those made by the other reviewers.

Keywording was undertaken initially as a group exercise within the Group using three reports, and then 10 reports were distributed for keywording in pairs. Subsequent reports were keyworded individually. All keywording was entered into the EPPI-Reviewer database (Thomas, 2002) by one reviewer (SP). An EPPI-Centre staff member (RR) keyworded all reports included in the map independently. Where discrepancies were found, consensus was arrived at through discussion with those who had applied the original codes.

2.3 In-depth review

2.3.1 Moving from broad characterisation (mapping) to in-depth review

After extensive discussions, the Review Group decided to restrict its in-depth review to those studies from the map which not only employed a randomised controlled or controlled study design, but also met some basic criteria for methodological reporting.

Therefore, for the in-depth review, a further five criteria were applied to studies in the map:

- viii. The study is a primary study and not a systematic review.
- ix. The study design includes the use of a control or comparison group.
- x. The study meets reporting quality 1, namely that the research questions are stated, i.e. the authors provide a succinct statement describing what the study is trying to explore/describe/discover/illuminate and these research questions are stated.
- xi. The study meets reporting quality 2, namely that at least some information is reported about the methods used in the study in each one of the following areas: the tools and people used to collect data; how the tools measure/capture the phenomenon under study; and the sampling and recruitment methods.
- xii. The study meets reporting quality 3, namely that at least some information is provided on the sample used in the study, i.e. the units from which the data were collected, for at least two of the following characteristics: age, sex, socio-economic status, ethnicity, health status, or other relevant characteristics.

Appendix 2.1 presents the full set of criteria used to determine inclusion in the in-depth review.

2.3.2 Detailed description of studies in the in-depth review

Each of the studies meeting the inclusion criteria for the in-depth review was then reviewed in detail. Each data extraction was carried out independently by two reviewers, using a set of standard questions covering the study's aims and

rationale; study research question(s) and policy and practice focus; study methods, sample, results and conclusions; and study quality (EPPI-Centre, 2003b). The pairs of reviewers then met to reach consensus.

2.3.3 Assessing quality of studies and weight of evidence for the review question

Studies were assessed using a system for weight of evidence (high/medium/low) contained within the data-extraction questions described above. In this system four weightings are given:

- A: Soundness of method (i.e. the extent to which a study is carried out according to best-accepted practice within the terms of that method)
- B: Appropriateness of study type to answer the review question (i.e. appropriateness of methods to the review question)
- C: Relevance of the topic focus for the review question
- D: Overall weight of evidence that can be attributed to the results of the study.

The following approach was taken to determine the overall weighting, the same as used in Penn *et al.* (2004):

- High – only if A, B and C are all rated as high
- Medium – only if A, B and C all rated as either medium or high, with subcategories of medium-high if one or two rated as high, or medium-low if one rated as low
- Low – where two or more rated as low

2.3.4 Synthesis of evidence

A narrative synthesis approach was taken to draw together the findings of the studies reviewed in-depth. Details of interventions, study populations and study methods were presented in tabular form and these tables were used to find factors in common and differences between studies. The findings of all three studies were then also presented in tabular form, alongside each study's weight of evidence. Findings were then presented as a whole, with individual study findings weighted in importance according to their attributed weight of evidence.

2.3.5 In-depth review: quality-assurance process

Most of the Review Group members had received training during the first review, and the newest member of the group was paired with a more experienced reviewer. Two data extractions conducted as part of the in-depth review involved independent data extraction by two reviewers, both a Review Group member (EL or VB) and an EPPI-Centre staff member (RR). For the third data extraction, the EPPI-Centre staff member conducted a separate data extraction that was then checked against a consensus already reached by two other reviewers (EL and HP); the three reviewers then reached a final consensus on this study.

3. IDENTIFYING AND DESCRIBING STUDIES: RESULTS

This chapter describes the results of the searching, screening and systematic mapping of studies, and describes how studies were ultimately selected for in-depth review.

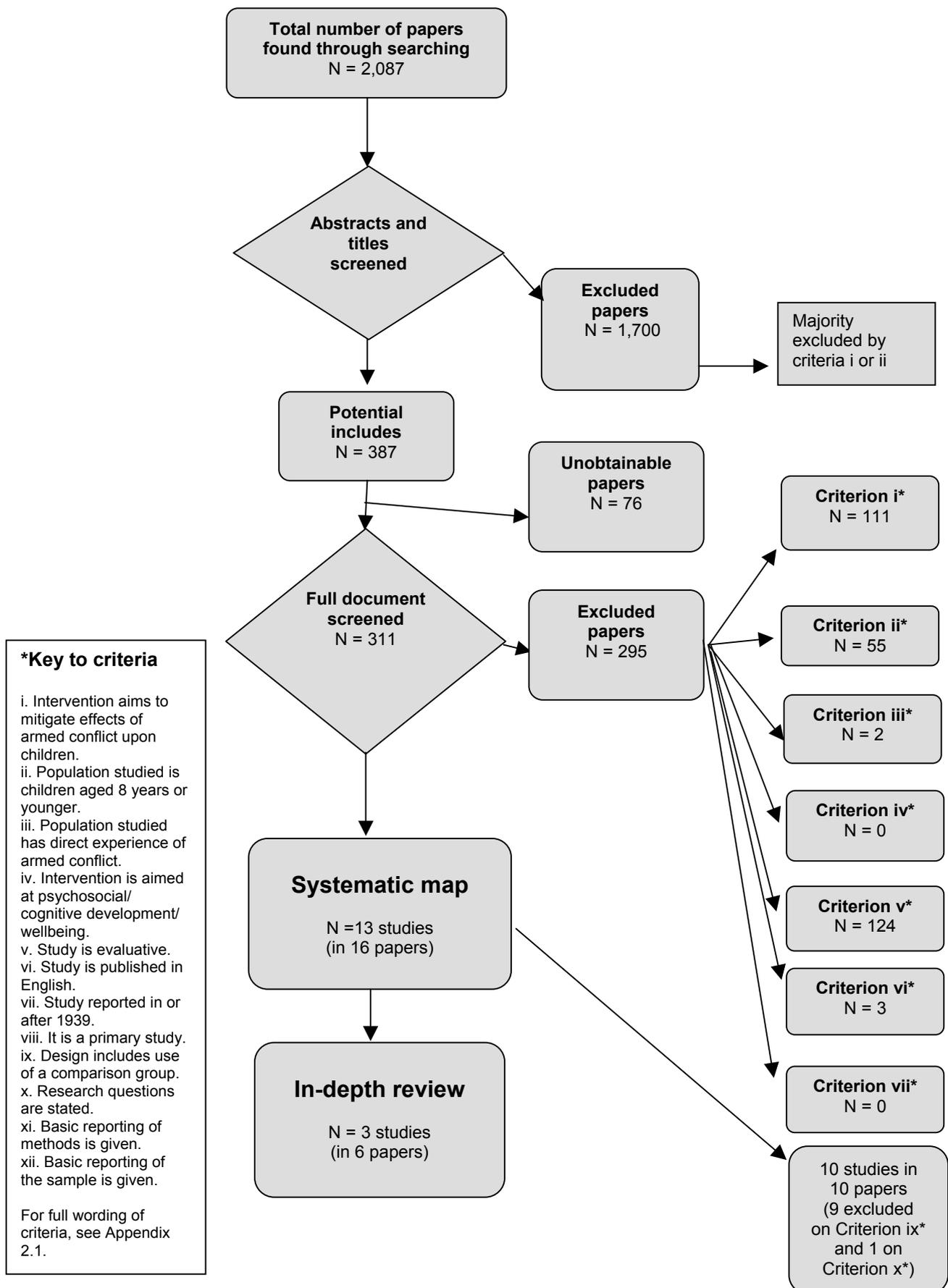
3.1 Studies included from searching and screening

Searching – including database searching, internet searching, citation tracking and hand searching – produced a large number of reports (2,087), of which over 80%, were excluded at the abstract screening stage. The details relating to included and excluded reports can be found in Figure 3.1. As well as studies that met all inclusion criteria, studies were found that did not meet all criteria but provide useful insights. For example, many studies describe the effects of armed conflict on children, but do not describe interventions *per se*. Many case studies of relevant interventions for this age group were also found.

Citation tracking proved to be a significant means of identifying relevant reports. Over 200 citations in relevant studies were identified and screened, and these were the source of nearly 71% of reports in the map (figures not shown).

Only 13 studies (contained in 16 reports) met the criteria for the map, and only three of these studies met the additional criteria for the in-depth review. At this in-depth stage, all but one of the 10 excluded studies were excluded because they did not use a comparison group design.

Figure 3.1: Filtering of papers from searching to map and to in-depth review



3.2 Characteristics of the included studies

3.2.1 Bibliographic details of studies

Thirteen studies were included in the map. These studies were contained within 16 reports. No relevant systematic reviews were found. Of the 13 studies, nine were reported in single papers. The remaining four studies were each reported in more than one paper. One study conducted by Dybdahl was reported in two papers (Dybdahl, 2001a, b). A study conducted by Wolff and colleagues was reported in three papers (Wolff, Dawit and Zere, 1995; Wolff *et al.*, 1995; Wolff and Fesseha, 1999). For the remainder of this report, unless otherwise specified, these two studies are referred to as Dybdahl (2001b) and Wolff *et al.* (1995a). The remaining two studies were each reported in the same two reports (Barath, 1999; Barath, 2003). One study, of an intervention in schools in Croatia named 'Images of my childhood', is cited in the remainder of this report as Barath (2003). The second study was an evaluation of a separate intervention, named 'Step by step to recovery', implemented in refugee camps in Slovenia. This will be cited here as Barath (1999).

Appendix 3.1 details the 13 studies that met the criteria set for the map. The following sections describe the characteristics of these 13 studies.

3.2.2 Geographical and temporal range

All the studies report interventions during the last 25 years relating to conflicts in Africa, or in Bosnia-Herzegovina and Kosovo, which emerged from the former Yugoslavia. While three studies report on interventions which covered part of the 1980s as well as the 1990s, all others were conducted in the 1990s. Table 3.1 lists the studies according to the countries where children had experienced conflict.

Table 3.1: Studies according to the countries where children had experienced conflict (N = 13)

Country	Studies
Countries of the former Yugoslavia	Barath, 1999; Barath, 2003; Bilinakis <i>et al.</i> , 1999; Dybdahl 2001b; Elklit, 2001
Mozambique	Charnley and Langa, 1994; Honwana and Pannizo, 1995
Sudan	Derib, 2002; Paardekooper, 2002
Eritrea	Wolff <i>et al.</i> , 1995
Rwanda	Dona <i>et al.</i> , 2001
Sierra Leone	Abdullai <i>et al.</i> , 2002
Mixture of countries: Bosnia, Middle East, sub-Saharan Africa	O'Shea <i>et al.</i> , 2000

With two exceptions, the interventions took place in the same country as the conflict that had been experienced by children (six studies) or in a neighbouring country (five studies). The two exceptions were a study of Kosovan refugees in Denmark (Eiklit, 2001) and a study of a UK school-based programme for refugees from a variety of countries (O'Shea *et al.*, 2000). In nine cases, conflict continued to affect the country of origin of the refugee children, while the intervention and study were being conducted.

3.2.3 Settings

As Table 3.2 describes, the intervention settings vary, with many interventions employing more than one setting. Refugee settings are the most common.

Table 3.2: Intervention settings (N = 13)

Intervention setting	Number of studies*
Refugee setting	4
Educational setting	3
Home/foster care	3
Internal displacement setting	2
Residential care	2
Other community setting	4

* The number of settings adds up to more than 13 because some interventions took place in more than one setting.

In both cases where residential care settings (orphanages) were studied, these were in the children's' country of origin (in-country), while the foster care was provided both in-country and out-of-country.

3.2.4 Populations

There were two main populations targeted: children and those with potential to support children (including parents, service providers and other carers). Nine studies targeted someone other than children, although not exclusively.

Only one intervention provided for children under three years old (Honwana and Pannizo, 1995). Most provided for a wide range of ages and did not specify outcomes according to age. All but one intervention (O'Shea *et al.*, 2000) was targeted at groups of children expected to be of the same racial and/or ethnic group. Child soldiers were a specific focus in the two Mozambican studies (Charnley and Langa, 1994; Honwana and Pannizo, 1995).

3.2.5 Intervention types

Three different kinds of interventions were provided:

1. Direct interventions with children. These include practical and psychological interventions. The practical focused mainly on meeting the need for accommodation and health care; this included fostering, residential care and family reunification. Art therapy was an important tool for psychological interventions.

2. Interventions with parents and foster carers. These include psycho-education and instruction in health care, child development and parenting.
3. Interventions with service providers. These involved training in psychosocial interventions, and work on reorganising residential care settings to provide more effectively for the psychosocial needs of the children.

Although three studies only recorded one type of intervention – two art therapy (Barath 1999 and 2003) and one reorganisation of residential care (Wolff *et al.* 1995a) – it was normal for a range of complementary interventions to be provided.

3.2.6 Study types

In the majority of the 13 studies (N=9), the evaluations were of naturally occurring interventions in that researchers did not appear to have influenced, for the purposes of study, who had received, or had not received the intervention. In three of the studies (Barath *et al.*, 1999; Barath *et al.*, 2003 and Wolff *et al.*, 1995a), it was clear from study reports that researchers had been involved in the development of an intervention that had been implemented and then evaluated retrospectively. A comparison group was used in only one of these nine studies (Wolff *et al.*, 1995a), although only to look retrospectively at children after the intervention of interest. The other eight of these nine studies also only used retrospective data.

In four of the 13 studies, researchers had manipulated who received an intervention (or did not) as part of the evaluation. Two of these studies (Dybdahl 2001b; Paardekooper, 2002) were randomised controlled trials (RCTs), with individual participants allocated to receive the intervention or a comparison experience at random, before the intervention started. Elklit's (2001) study collected data for children both before and after experience of a psycho-educational programme run by the Danish Red Cross. Children receiving this intervention were compared at both of these two time points with another group of children who did not receive the intervention. Details of this second group and how it was selected are unclear. One further evaluation involved researcher control over children's selection for an intervention (O'Shea, 2000). In this study, before and after measures were made with children who had been selected to receive a school-based programme. No comparison was attempted with children not receiving this intervention.

3.3 Identifying and describing studies: quality-assurance results

The two independent screenings of the one subset of abstracts (done by RR and EL) both resulted in good agreement with the two reviewers who undertook the screening as a whole. The first independent screening excluded none that the reviewers had included, and selected two items for possible inclusion that had not been included. However, it was noted that these two items looked relatively unlikely to be included. The second independent screening included all but two of the studies the reviewers had included and none that they had excluded. The agreement between these two independent reviewers was also good, at 95%.

4. IN-DEPTH REVIEW: RESULTS

This chapter focuses on the three studies identified by this review's searches and considered to be the most appropriate to answer the review question, *What is the effectiveness of interventions to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0 to 8?* After setting these three studies in the context of others found within the literature, each study is described in some detail. The characteristics and findings of all three are then considered as a whole, in terms of how much they help answer the review question.

4.1 Selecting studies for the in-depth review

As described in Figure 3.1, only three studies met the additional criteria for the in-depth review. A total of nine studies were excluded between the map and the in-depth review because they did not use a comparison group design (Abdulai *et al.*, 2002; Barath, 1999; Barath, 2003; Bilanakis *et al.*, 1999; Charnley and Langa, 1994; Derib 2002; Dona *et al.*, 2001; Honwana and Pannizo, 1995; O'Shea *et al.*, 2000). The other excluded study (Elklit, 2001) did use a comparison group design but was excluded because the report found by the review's initial searching, which appeared to be a secondary report, did not state its research questions and also would have failed on the review's other reporting quality criteria, thus making its potential contribution to the review minimal. Contact with the author confirmed that no other reports were available in English. There was insufficient time available for translation as part of this review.

Given the extremely difficult and in many cases hazardous circumstances under which the mapped studies were conducted, the reviewers wish to state their admiration for the implementation of the reported interventions by all involved in the mapped studies, even if these studies failed to meet the criteria for evaluations established for inclusion in this next stage of the present systematic review.

4.2 Comparing the studies selected for in-depth review with the total studies in the systematic map

Almost a quarter (23%) of the studies included in the map were selected for the in-depth review. Apart from study design, there is no striking way in which the studies included in the in-depth review differ from those in the systematic map: the interventions studied within the in-depth review, the children receiving them and their settings reflect the range seen in the map.

4.3 Further details of studies included in the in-depth review

4.3.1. Features characterising all three studies included in the in-depth review

Characteristics of the three studies are elaborated in Appendix 4.2. No one intervention had been studied more than once, but all but one were described in more than one report (see Appendix 4.1).

As would be expected from the review's inclusion criteria, all three studies provide outcome data for children. One (Dybdahl, 2001b) also provides outcome data for mothers (including data related to their mental health). Other issues raised in the studies include evaluation of the intervention processes (Paardekooper, 2002) and the social reorganisation of a residential care setting, including staff deployment (Wolff *et al.*, 1995a).

There is also variation in the ways that the studies used comparison groups. Both Dybdahl (2001b) and Paardekooper (2002) randomly assigned individuals to intervention and control groups, having first selected the population sample using specific criteria. Wolff *et al.* (1995a), on the other hand, compared outcomes for already existing groups, which were matched in certain respects.

All three studies targeted refugee children from mixed social groups in the same country who had extensive direct experience of armed conflict and flight, and who were living under exceedingly difficult material circumstances. The South Sudanese refugee children living in Ethiopia and studied by Paardekooper were not surrounded by continuing armed conflict during the course of the intervention. However, conflict continued to mark the daily experience of the internally displaced Bosnian refugee families with whom Dybdahl and her colleagues worked. Continuing conflict also affected the internally displaced Eritrean children from an Eritrean orphanage and refugee camp studied by Wolff and his colleagues, although the war ended in 1991, when data collection for this evaluation was not yet completed.

The family context of the three studies varied considerably, ranging from an intervention study that used mothers as the mediators of the intervention for their young children (Dybdahl, 2001b) to a study (Wolff *et al.*, 1995a) that evaluated an intervention for children whose parents had been killed, were missing or presumed dead. In between the two was Paardekooper's (2002) study of an intervention aimed at refugee children living with one or two parents.

In terms of participation in research and intervention development, all three studies were led by researchers from minority world countries who were also the lead authors of the associated reports. However, the authors report involvement by in-country counsellors, psychologists and physicians, including psychiatrists, in designing and conducting the intervention programmes, data collection and analysis and in one case (Wolff *et al.*, 1995a) in writing up. In the case of both Paardekooper (2002) and Wolff *et al.* (1995a), the interventions involved the active participation of children (Wolff, *op.cit.*, p 642) in identifying coping strategies.

4.3.2 Further details of the individual studies in the in-depth review

Evaluation of a psychosocial intervention programme for Bosnian refugees

The Bosnian study (Dybdahl, 2001b) was conducted in Tuzla in 1996, when the outcome of the war in Bosnia-Herzegovina (1992–95) was still uncertain. It evaluated the effects on young children (aged 5 to 10, mean age 5.5 years) and their mothers of a psychosocial intervention programme aimed at promoting the children's cognitive and psychosocial development. The study aimed to investigate the children's and mothers' physical and mental health before and after the intervention.

The intervention was theoretically grounded in two sources. First it argued, citing evidence from the literature, that traumatised children might best be helped by supporting their mothers' or caregivers' role in children's healing, helping them cope with their own grief and difficulties, and helping them provide a well-functioning family environment, particularly where fathers were lost or missing (Hundeide, 1991; Kalantari *et al.*, 1993), as under such circumstances the interaction with children is often negatively affected. Second, the format was based on the International Child Development Programme, which is rooted in modern developmental psychology.

A sample of 87 mother-child dyads was selected from a sampling frame consisting of all Bosnian refugees in Tuzla who met four inclusion criteria, and they were subsequently randomly allocated to an intervention or control group.

The intervention lasted five months and consisted of weekly group meetings for mothers. It focused on coping with their problems, promoting good mother-child interaction as well as peer support among the mothers, and increasing their knowledge and understanding of child development and child trauma reactions. This was complemented by regular basic healthcare provision, which was also administered to the control group. In particular:

The work in the groups followed a manual developed for this study (Dybdahl, 1996). Each meeting was semi-structured and dedicated to education and discussions about specific topics, such as child development, mother-child interaction, trauma and coping strategies. This nonformal program tried to support the mothers so that the normal basic communications and interaction skills that already existed were reinforced. The support also involved direct attention to the mothers and their mental health, to their beliefs and knowledge about children, and the reactions and needs of adults and children following traumatic events ... The mothers would then share their experiences about this topic, their feelings, and their coping strategies, as well as discuss the suggestions proposed by the group leader. (Dybdahl, 2001, p 1218)

The study was strong in its design (an RCT) and execution, and also from an ethical perspective, as informed consent was obtained from all participants. It used research instruments adapted to local cultural circumstances and reliability and validity of these was ensured as far as possible. Post-intervention data were collected five to six months afterwards. Attrition rates, at 25% and above, depending on the measure concerned, appear acceptable for a study of this kind.

At baseline, the study established extensive exposure to war activities as well as severe traumatisation rates of this sample of mothers and children affected by armed conflict in Bosnia. For example, among the women and children fleeing, 58% had had family members killed, 84% had been shot at, 30% had seen their home destroyed and 13% had witnessed torture. Having family members killed in the war proved to be the single war trauma correlating most strongly with the total and subscale scores on the revised exposure to traumatic events scale (ETES) (Weiss, 1996), which was administered to the women both pre- and post-intervention (Dybdahl, 2001b, p 1221). Perhaps predictably, women whose husbands were missing or killed scored significantly higher than women forming part of a couple on the ETES (Dybdahl, 2001b, p 1223). The extent of children's traumatisation was inferred from the combined baseline results of interviews with the children, the mothers' descriptions and the psychologists' tests, and observations of the children and their problems. The degree of the children's anxiety and withdrawal, for instance, turned out to be significantly related to the extent of traumatic events experienced. Children's problems correlated negatively with age (Dybdahl, 200b, p 1223).

The sample was initially selected from among refugee women and children who had not been included in other help programmes. This suggested to the author that they were typical, or indeed better off, than the rest of the Bosnian refugee population in terms of trauma exposure, health and social functioning (Dybdahl, 2001b, p 1225). Consequently, she felt that generalisations could be made to the displaced Bosnian refugee populations and that these findings left no room for complacency about the degree of their trauma exposure.

Significant post-intervention differences were found between the mothers in the two groups on four subscales of the three measures of maternal wellbeing and mental health. Intervention group mothers showed significantly fewer hyperarousal symptoms on the revised (Weiss, 1996) three subscale version of the impact of event scale (IES). They scored significantly higher on the Andrews and Withey (1976) wellbeing scale in respect of the item about 'How I usually feel' and they felt they had significantly more access to helpful advice (Flannery, 1990) within the framework of their social support network (Dybdahl, 2001b, pp 1219 ff).

For children, the sum-of-problems score resulting from the psychologists' observations and evaluations was lower after the intervention period in the intervention group than in the control group, and children in the intervention group were rated as significantly happier than children in the control group. No post-intervention differences were found between the groups of children on several psychosocial measures, and no differences were found in cognitive performance. The analysis revealed significant correlations between interviewer, child and mother reports, particularly in relation to depression and concentration, and the total problem scores (Dybdahl, 2001b, p 1224).

The author concludes that 'results showed that ... the intervention programme had a positive effect on mothers' mental health, children's weight gain, and several measures of children's psychosocial functioning and mental health, whereas there was no difference between the two groups on other measures' (Dybdahl, 2001b, p 1214). She regarded these results as generalisable to the wider Bosnian refugee population.

The reviewers considered the study findings robust, although it was a little disappointing that relatively few results from the wide range of tests and other

measures employed were found to be statistically significant. They concurred with the author's view that this study has policy implications.

Evaluation of two different psychosocial interventions for Sudanese refugees

This study was of two different psychosocial interventions with child refugees from Southern Sudan, aged 5 to 16 years, who were living in Addis Ababa, Ethiopia, with their parent(s) or caregivers; it aimed to promote the psychosocial wellbeing of these children, as well as 'to evaluate a low-cost, short-term group programme that can be implemented easily for refugee children in a developing country' (Paardekooper, 2002, p 169). While the intervention only addressed psychosocial development, the author posits that improved psychosocial functioning would affect cognitive functioning, which can be shown to be affected by cumulative stressors.

The study was theoretically grounded in ecological (Bronfenbrenner, 1979) and psychological theories (Garbarino and Kostelny, 1996; Macksoud and Aber, 1996), suggesting that chronic and acute environmental stressors, including traumatic experiences of being a refugee, flight and armed conflict, affect children's psychological health in a cumulative way. Furthermore, the study tested the buffering effect of two types of social support in such circumstances, either problem-focused or emotion-focused (Lazarus and Folkman, 1984), and their associated coping mechanisms. Paardekooper cites Thoit's (1986, p 417) conceptualisation of social support as 'coping assistance'. It is recognised that in children a shift from the former to a mixture of the former and latter coping styles can be demonstrated over time (Compass and Epping, 1993).

Finally, the study was underpinned by empirical data gathered by the author in a previous study on the degree and nature of exposure to traumatic events and related levels of impaired psychosocial functioning in Sudanese child refugees living in Uganda (Paardekooper *et al.*, 1999).

Children were included in this study on the basis of detailed psychological test evidence showing impaired psychological functioning and evidence of a certain degree of post-traumatic symptoms. An attempt was made to register all Sudanese children in Addis Ababa and this register was used to identify children to test if they could be included in the study. Other baseline assessments include measures of psychosocial and cognitive functioning, and demographic variables. Parents or carers answered the questions on the culturally adapted trauma event scale, a subset of the Harvard Trauma Questionnaire (Mollica *et al.*, 1992). Traumatic events experienced by the children include loss of property by being robbed or having the home set on fire (96%), witnessing the murder of a family member (39%), or the experience of torture (13%) and sexual abuse (8%) (Paardekooper, 2002:105).

In addition, the researchers measured the degree of 'daily stressors' experienced by the refugee children and reported by the children themselves at the time the study took place. The most frequently mentioned problems were harassment (99%) and lack of places to play (90%), while hunger (74%), nightmares (66%) and worries about family members (65%) also featured strongly (Paardekooper, 2002, p 104).

After baseline assessment, 207 children were randomly assigned to a control group or to two different programmes of seven weekly creative activity sessions for groups of 15 children, in the context of a community mental health programme. The first seven sessions were followed by an eighth session consisting of a joint party for both types of group with their families. The control group consisted of children who took place in the pre- and post-test assessment, but did not attend any programme.

The two programmes differed from each other only in terms of their middle four sessions. In the 'psychodynamic' programme, these four sessions focused on promoting emotion-focused coping strategies in the children by means of discussions and drawing on the subject of traumatic war and living experiences, memories, loss and mourning. In the 'contextual' programme, the middle four sessions focused on encouraging the children to plan their own possible solutions to problems/stressors they were experiencing in their daily lives as refugees. Participants in both programmes were offered material and emotional support and guidance, and opportunities for socialising with peers (Paardekooper, 2002, pp 81 ff). Outcome data were collected six weeks after the end of the intervention.

This was a well designed and well executed study, an RCT, with a strong theoretical underpinning, sound baseline data, and employing reputable pre- and post-intervention psychological tests, which had been adapted to the specific cultural environment of the refugees with the help of parents/caregivers and local researchers. However, there was no mention of a consent procedure either for parents/carers or children. The evaluation also faced some serious practical challenges in restricting the evaluation sample so that it included only those attending the programme to which they had been allocated. Partly as a result of this, attrition rates were particularly high between random allocation and use of data in analysis. (Data were available for analysis from only 51% of those allocated to groups.) There were also differences in demographic and psychosocial variables between those providing post-intervention data and those who dropped out during the intervention. Attrition rates were, at least, equal between the three groups.

Compared with children in the control group, children from the 'contextual' programme showed significantly better effects on (1) obsessive-compulsiveness and somatisation (from subscales of the standard child behaviour checklist (CBCL); (2) behaviour problems related to fear and concentration problems (from modified subscales of the CBCL); (3) post-traumatic memories and post-traumatic depression (from the Chuol/Nyachuol questionnaire), and (4) coping, social support network, daily stressors. Children from the 'psychodynamic' programme only performed significantly better than the control group as far as their social support network and coping with daily stressors were concerned.

In summary, the author states that results showed that, of the two eight-week psychosocial group programmes, the 'contextual' programme promoting problem-focused coping strategies resulted in significantly improved psychosocial functioning compared with the control group, and compared with pre-intervention assessment results. The 'psychodynamic' programme promoting emotion-focused coping strategies did not yield better outcome results than those of the control group.

The author concludes that the 'contextual' programme did indeed constitute an effective low-cost, short-term group programme that could be easily implemented

with this refugee population. She did acknowledge, however, that the study was specific to Sudanese refugee children living in a host country, but may indicate ways in which other refugee children in similar circumstances might be helped. Nevertheless, Paardekooper (2002, p 170) considers that her overall result:

implies that, within the circumstances prevailing in many developing countries, programmes are to be preferred that focus on dealing with the everyday stressors of being a refugee instead of programmes focusing on the consequences of traumatic stress.

The reviewers consider that it is possible that the children taking part represented those most willing to contact refugee services and thus not the child refugee population as a whole. They also noted the lack of detail provided about the control group's experiences. They regard the reliability of the study's findings to be reduced on account of the high attrition rates already outlined in this section.

The use of this study's findings for this review is also partially limited for two other reasons. The first is that the study's 207 children included 57 who were born in Ethiopia and not Sudan and so may not have had direct experience of armed conflict, although their parents would have been refugees from Sudan. The children in the study, both boys and girls, also ranged in age between 5 and 16. It is impossible to know for sure whether the intervention worked for the age group 0–8, as no age breakdown of results is provided. Personal communication with the author confirmed, however, that no statistically significant differences in outcomes for different age groups had been found in a subsequent analysis. In summary, the reviewers' view was that this study's findings warrant the conclusion that the contextual programme described looks promising for improving psychosocial outcomes in children who are refugees from armed conflict when compared with usual refugee services. Also there is some evidence that this specific programme might work better for this outcome than would a more psychodynamically oriented approach.

Evaluation of a reorganised orphanage for Eritrean refugees

The study by Wolff, Tesfai, Egasso and Aradom (1995) aimed to examine what kind of group care would best serve the needs of such orphan children. The study began in 1990, two years after the orphanage had been reorganised and towards the end of the 28-year war between Eritrea and Ethiopia. The orphanage, located in an inaccessible and mountainous region, had been reorganised socially along child-centred and humane lines, and the staff had been retrained and had continued to receive regular in-service training in clinical child development. Children had participated actively in the intervention: for instance, 'older children in the reorganised dormitories now assumed some responsibility for looking after and teaching younger children' (Wolff *et al.*, 1995a, p 635). This process is described in a linked paper (Wolff *et al.*, 1995b). The study was conducted under conditions of active warfare, but data collection was completed just after the war with Ethiopia had finished.

The authors designed the reworked approach to the running of the orphanage and formulated their hypotheses for the present study with reference to general psychological theories – those concerning the negative effects on psychosocial development of early and permanent separation from parents (Bowlby, 1980; Crook and Elliott, 1980) and those concerning young children's greater vulnerability to psychological stress and deprivation (Garmesny and Rutter, 1985;

Jensen and Shaw, 1993). Consequently, as described by Wolff *et al.* (1995a, p 635):

A permanent surrogate parent lived with the children as the primary caretaker, and two assistant caretakers were permanently assigned to each dormitory group to help the housemother. Finally, dormitories had been reorganised to include a balance of older and younger children; and older children assumed some responsibility for looking after and teaching younger children.

For the study described here, a stratified random sample of 74 orphans was constructed from the 500 children in the orphanage, reflecting the age distribution of the orphanage and including equal numbers of boys and girls. This sample was matched for age and sex with 74 boys and girls living with their families in a neighbouring refugee camp. However, whereas orphans had generally arrived at the institution aged three or four, 70% of refugee children had been born in the camp or entered it before the age of three months, and the rest before their second birthday. In this important respect – that is, the extent to which they had experienced flight from their original homes – the two populations under study therefore differed from each other. Furthermore, camp children started formal schooling at age six to seven, whereas the orphans had received several more years of both kindergarten and primary schooling.

This study was a retrospective evaluation of the orphanage intervention, with outcome data collected after the children had experienced two years of the orphanage in its reorganised form. Outcome data were collected from children in the refugee camp at the same time. No baseline data were available for either group. Living conditions in this part of Eritrea were some of the harshest in the whole of the country and, at the time of the study, there was a constant threat of air raids, coupled with a shortage of trained personnel and material resources. At that time, all children lived under similar conditions of food and water shortages, and inadequate housing, sanitary and recreational facilities, except that children in the refugee camp were free to play unsupervised around the camp, compared with the orphans who were more strictly supervised. A degree of physical and psychological disturbance was seen, not surprisingly, among both groups of children at the time of study, although the authors acknowledge that socio-emotional problems among the orphans were fewer than at the time of the original reorganisation of the orphanage, and that absolute levels were difficult to establish in the absence of an Eritrean control group of children who had not experienced the flight from their homes with the accompanying material deprivation for both study groups and emotional losses for the orphans (Wolff *et al.*, 1995a, p 642). The study can be classified as an evaluation of a naturally occurring intervention, in that the researchers did not influence who was cared for at the orphanage or the refugee camp for the purposes of study. It makes comparisons between the children in the two settings. The sampling and data collection and analysis processes are transparently described. As far as possible, culture-fair standardised psychological tests were used alongside ones modified for use with children growing up in rural Eritrea, to collect data on cognitive and psychosocial functioning. There is no mention of the use of consent procedures.

As far as results are concerned, orphans showed significantly more behavioural symptoms than the children in the refugee camp, but further post-hoc analyses revealed that this was due only to the effect of the 4- to 5-year-old (i.e. younger) orphans within the group and that this could be related to their chronological age

and length of time spent in the orphanage. Of the socio-emotional domains investigated, only one or two accounted for most of the difference. Enuresis was significantly more common among the orphans, whereas children in the refugee camp had significantly more fears about animals, the dark, strange noises and so on, than the orphans. Orphans performed significantly better than refugees on three of the four cognitive measures. There was a significant inverse correlation between frequency of problematic behavioural symptoms and performance on the Leiter scale, which measures intelligence and was developed from cross-cultural evidence (Leiter, 1969). There were no differences between boys and girls (Wolff *et al.*, 1995, pp 638ff).

The authors conclude that, given the magnitude of the environmental stresses experienced by the orphans, the findings of greatest interest are (1) that the clinically significant differences between orphans and children in the refugee camp were less than anticipated, and (2) that not all of them were in the predicted direction. Orphans performed significantly better on several cognitive and language tests than children in the refugee camp, although they displayed more behavioural symptoms of distress. The authors acknowledge that this might be due to the fact that the orphans had had kindergarten experience, unlike the children from the refugee camp. The authors used these results as justification for their conclusion that child-centred group care can be a viable solution for unaccompanied children in majority world situations of armed conflict, when reunification with extended families, fostering or adoption fail to be viable alternatives (Wolff *et al.*, 1995a, p 642).

The reviewers considered the comparison with the children in the refugee camp to be problematic for the purposes of evaluation of the orphanage, especially in the absence of baseline measures. They considered it likely that the two groups differed at the start of the two-year period of interest. They noted that the authors themselves acknowledged the potentially confounding effect of the orphans' greater educational experience on the cognitive outcomes. They agreed with the authors' conclusion that 'the model of group care devised in Eritrea must first be adapted to local cultural traditions' (Wolff *et al.*, 1995a, p 642) if it is to serve as a model of good practice in similar circumstances. The reviewers considered that this study design was unable to provide reliable findings about the impact of the orphanage, compared with other settings.

4.4 Synthesis of evidence

The following section pulls together the three studies. It draws together study characteristics and findings, and presents these alongside the weight of evidence accorded each study by the Review Group, so as to explain the group's subsequent conclusions about what can be learned from each study, and from the three studies as a whole. Appendix 4.3 presents this information in table form.

4.4.1 How well did the studies answer the review question

The review question concerned the effectiveness of interventions to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0 to 8. We had no preconceived notions about the

nature of such interventions, only about the template of design features of evaluative intervention studies most likely to yield robust findings.

Only one of the three studies which met our in-depth review criteria (Dybdahl, 2001b) addressed the review question completely and also focused on impact on children within the relevant age group. Both this and the Wolff *et al.* (1995a) study explored impact on both cognitive and psychosocial functioning as stipulated by the review question, whereas Paardekooper (2002) focused only on impact on psychosocial development. However, neither Paardekooper (2002) nor Wolff *et al.* (1995a) reported on interventions that were restricted to children aged under eight. Despite the authors' recognition that the effect of armed conflict tends to be more profound for younger children, Paardekooper and Wolff *et al.* did not provide a breakdown of their results for different age groups within their respective samples. It is therefore more difficult to extrapolate from their significant results to interventions aimed specifically at children aged under eight.

There are substantial differences between the different categories of children affected by armed conflict in the studies incorporated in this review. The Bosnian children were living with their mothers or with both their parents, and the Sudanese refugees were living with at least one parent or caregiver, whereas the Eritrean refugees were living in overcrowded orphanage conditions and had experienced the additional stressor of the loss or death of both parents. It is therefore slightly more difficult in principle to generalise from the Wolff *et al.* (1995a) findings to other categories of refugee children. However, all reported conditions in these studies appear to be representative of the conditions encountered by refugee children in majority world countries.

In terms of strength of study design, two of the three studies (Paardekooper, 2002; Dybdahl, 2001b), which were RCTs, incorporated a viable comparison group. Reviewers concluded, however, that the use of a comparison group by Wolff *et al.* (1995a) was limited; the circumstances surrounding this intervention make this understandable. Randomised controlled trials are commonly regarded as the most rigorous type of study for answering questions relating to the impact of interventions (Oakley, 2000).

4.4.2 Different evidence provided by the three studies

Paardekooper's (2002) study was the only one to attempt to test rigorously and explicitly the psychological theories underlying various approaches to interventions with young children directly affected by armed conflict. The other two studies focused more on the practical effect of the interventions without questioning the assumptions about the psychological processes underlying these.

One important characteristic of two interventions is the attempt by researchers to support the 'normalisation' of the child refugees' daily lives via the intervention. The Dybdahl (2001b) intervention was aimed at helping refugee mothers recreate some 'normality' in the daily lives of their children through addressing the quality of mother/child interaction, as well as through addressing the mothers' mental health. As mentioned above, on theoretical grounds Paardekooper's (2002) study compared a 'contextual, problem-focused' intervention with another intervention which was deliberately lacking in this contextual focus, although more general support with daily living circumstances was provided to all three groups in this study.

Paardekooper further explored the impact of the nature of the activities promoting 'normalisation' and conjectures that the part played by the children themselves in identifying relevant strategies and activities, was crucial to their success (2002, p 174).

Finally, family groupings had been introduced in the Eritrean orphanage as part of its reorganisation, to encourage greater similarities with the home environment the orphans had experienced previously, in an attempt to 'normalise' the children's daily lives. In this respect, the control group of children living within their families in the refugee camp could be viewed as a genuine control.

In terms of findings from the studies as a whole therefore, two (Dybdahl, 2001; Paardekooper, 2002) found that interventions that could be characterised as focused on 'normalisation' of the children's daily living situation and strengthening their coping mechanisms were more successful for psychosocial outcomes in children than either a psychodynamic intervention or 'usual services'. Findings about impact on cognitive outcomes are mixed. Authors of the third study (Wolff *et al.*, 1995a) found that a similarly focused intervention was associated with higher than expected cognitive performance, but no evidence was found of any impact in the other study that measured this (Dybdahl, 2001).

4.4.3 Weight of evidence accorded to the three studies

Looking at study design and quality, and the different population and outcome focus of each study, reviewers ranked the three studies overall along a weight of evidence continuum of high to low weight as follows:

- Dybdahl (2001) – high
- Paardekooper (2002) – medium-high
- Wolff *et al.* (1995a) – medium

For full details about these weightings, see Appendix 4.3. We considered that the closeness of the population and outcome focus to the review question was high in two of the three studies included; the third (Paardekooper, 2002) was considered to be medium. Both the study design and implementation of Wolff *et al.* (1995a) were judged as medium, whereas the other two studies were judged as high in both of these areas. Since no study was therefore given a low weight of evidence in any area, the reviewers agreed that all three studies could be used both (a) to support conclusions about the impact of interventions with the target age group aimed at mitigating the impact of armed conflict, and (b) to introduce issues for policy and practice debates, and future research.

4.5 In-depth review: quality-assurance results

There were some initial inconsistencies between the pairs of reviewers in weighting the studies, mainly in terms of the usefulness of the study design for answering the review's question. These differences were the subject of telephone and email discussions within the small group of reviewers. These continued until consensus was achieved.

5. FINDINGS AND IMPLICATIONS

This chapter provides an overview of the findings and implications as well as general conclusions of this review. We discuss the implications arising from our identification, description and synthesis of three studies as part of this review. We consider the strengths and limitations of this review, and its relation to the wider research literature, and assess the policy, practice and research implications of what we have found.

5.1 Summary of principal findings

5.1.1 Mapping of all included studies

A systematic map, using highly sensitive searching techniques and the application of explicitly defined criteria identified only 16 papers reporting on 13 studies. No relevant systematic reviews were found. All studies were evaluations of interventions focused on children, including young children, affected by armed conflict; four are evaluations of researcher-manipulated interventions, of which two are RCTs. Of these studies, 12 report on outcomes for children, six on outcomes for parents and three on outcomes for service providers. Nine report on two or three types of outcomes.

The interventions range over direct interventions with children, interventions with parents and foster carers, and interventions with service providers. The nature of the interventions with children include different types of foster and residential care, reunification with parents; art therapy and creative activities; health care; group counselling and group discussions; as well as a range of group activities, including singing, dancing and acting.

All the studies report interventions relating to conflicts in Africa, or in Bosnia-Herzegovina and Kosovo, which emerged from the former Yugoslavia. All but two of the evaluated interventions had been delivered in the same country as the conflict that had been experienced by children, or in a neighbouring country. One evaluation was conducted in the UK.

5.1.2 Nature of studies selected for in-depth review

Three studies were found that evaluated psychosocial and/or cognitive functioning and development in children aged 0–8 as a result of interventions aimed at mitigating the impact of direct experience of armed conflict, while also using a comparison design and meeting basic standards of methodological reporting. The contexts of these studies vary widely: they covered three countries – Bosnia, Ethiopia (where Sudanese refugees were the population under study) and Eritrea. While children in our target age group were among the study populations in all three studies, only the study in Bosnia focused expressly on the target age group of our review.

Research methods are also varied. All three studies used comparison groups; the studies in Bosnia and Ethiopia used prospective, random allocation to these groups, and the Eritrean study was retrospective.

The two RCTs exceeded the other evaluation in the quality of their design, analysis and reporting, although the latter study frankly acknowledged in its conclusions the limitations on its design and the possibility of confounding variables affecting its results. The Eritrean study was conducted under conditions of active warfare, while the Bosnian study was conducted just after the end of the conflict. The study in Ethiopia was carried out while conflict in southern Sudan continued, but the refugees were at that point not directly affected by warfare.

5.1.3 Synthesis of findings from studies in in-depth review

Using a weight of evidence system to consider the extent to which studies were able to address our review question, none of the studies was rated low, which in itself is a remarkable achievement, given the research situation. One was rated high, one medium-high and one medium.

Paardekooper (2002) and Dybdahl (2001b) were rated as medium-high and high respectively. These two studies provide statistically significant evidence of a beneficial impact of interventions on children's psychosocial outcomes, including children in the age group 0–8, which is the target of our review, compared with a comparison group. The interventions found to be beneficial differ in ways that may be important, but, in both cases, the interventions focused on 'normalisation' of the children's daily living situation and on strengthening their coping mechanisms. Although the child-centred orphanage study by Wolff *et al.* (1995a) (rated medium) used a comparison group, significant differences could not be as reliably related to that intervention, as there may have been pre-existing differences between the control and intervention group on the measures studied. In the case of both Paardekooper (2002) and Wolff *et al.* (1995a), the interventions involved the active participation of children in identifying coping strategies, which may have acted as a significant protective factor for children in these studies. Indeed, according to Paardekooper (2002, p 175)

Probably the most important part of the Contextual programme was the fact that we tried to stay close to the wishes and experiences of the children involved...By starting from the problem definitions and possible solutions of the children themselves, we supported them to use their own resources. And by dealing with problems they experienced in their everyday life, we stimulated them to use problem-focused coping.

Findings from the two RCTs are sufficiently robust to inform current policy and practice debates about the shape of interventions aimed at mitigating the impact of direct experience of armed conflict on the psychosocial development of children aged up to eight. The findings of all three studies, taken together, provide general support for the assumption that a 'normalisation' approach may have been an important contributing component in the success of the interventions. Indeed, Paardekooper (2002, p 175) conclude that:

...the daily problems of living as a refugee can be perceived as the result of traumatising experiences in the past: if circumstances had not forced the children to flee, they would not be living in these circumstances. The

Contextual programme made the perceived consequences of these traumatizing experiences more bearable; therefore, possibly, also reduced the impact of the traumatizing experiences and thus also the PTSD-related complaints.

It is worthwhile noting, though, that Paardekooper's (2002, p 136) analysis of attrition data indicates that:

Generally, it looks like children with more behavioural complaints and children in more difficult circumstances dropped out, while children with more internalised psychological problems came to the programme.

Although there is evidence indicating a positive impact of such approaches in general on psychosocial outcomes, we found no direct evidence of an impact on cognitive outcomes. The only study to find some evidence of positive impact in this area is that by Wolff *et al.* (1995a), but the authors admit that cognitive confounders are likely and the positive results cannot be unequivocally attributed to the intervention. It may prove valuable, though, to hypothesise, in line with current thinking in developmental psychology, that adequate psychosocial functioning is a prerequisite for cognitive development. Or, in this case, it could be argued that a reduction in the level of psychosocial problems experienced by the orphans would have allowed cognitive development to proceed relatively unhindered.

While this was not the main focus of this review, all three studies provide evidence of high levels of direct and horrifying experience of armed conflict among the children studied. They also permit the conclusion that there was a likelihood of an adverse impact of such experience on these children's psychosocial development. One illustration of this is the experiences of the mothers and children, described earlier in section 4.2.3,

5.2 Strengths and limitations of this systematic review

This is the first systematic review of which we are aware that synthesises evaluative research of interventions aimed at mitigating the impact of direct experience of armed conflict on the psychosocial and cognitive development of children. This review provides evidence about the potential relevance and suitability, as well as effectiveness, of interventions that have been subjected to rigorous evaluation. In this section, we highlight the extent to which this review supports the view that appropriateness to local context and pragmatism must be central considerations when selecting interventions for implementation, research or development. Having in the next section considered particular methodological difficulties encountered in undertaking this review, we finally focus on particular aspects of the research we identified, which make interpreting findings in this area difficult. We finish with our overall conclusion.

5.2.1 Issues of appropriateness and relevance

In her report to the UN, Machel (1996) highlights that, of the world's 27 million refugees and 30 million displaced people, 80% are women and children. These

numbers have been steadily increasing, despite measures taken since then and described in the UN's (2002a) report on children and armed conflict. Coupled with the fact that more than 90% of these refugees and displaced people are received in majority world countries, and that more than half of them are children (de Jong, 1996), the preponderance of studies identified in our review that focus on interventions in majority world countries is not surprising.

This global situation, for pragmatic reasons alone, also favours the adoption of group psychosocial interventions as opposed to ones which are individually delivered, or individualised to some degree. The question that inevitably presents itself is: are there enough practitioners and resources, and is there enough time to spend in one-to-one work with trauma on this kind of scale, at least within minority world countries and in particular in countries where conflict is ongoing? In her extensive review of the relevant literature, Paardekooper (2002, p 77) argues that there is evidence for the greater effectiveness of group interventions under such circumstances. However, the present review did not find any one-to-one interventions evaluated using a comparison group design, and has therefore not been able to compare group with individually delivered interventions. Indeed, evaluations of one-to-one interventions with refugee and displaced children appear to have been investigated largely on an individual case study basis. (The map includes a small number of one-to-one interventions where children's outcomes have been studied across a single group.) The Review Group is aware that the review's focus on studies that have used a comparison group design has meant that one-to-one counselling or psychotherapy – the dominant paradigm in Western psychiatry, because of the mode by which it has been evaluated – has effectively been excluded from consideration.

While a pragmatic necessity, the reviewers note that group interventions have previously been challenged for sometimes making, at times uncritical, use of the theoretical, if not the therapeutic, tools of Western psychology and psychiatry. No intervention is value-neutral (Bracken, Giller and Summerfield, 1997, p 431; Summerfield, 2000). Such critiques, and Pupavac's argument that psychosocial intervention may be seen 'as a new tool of international therapeutic governance based on social risk management' which may 'jeopardise local coping strategies' (2001, p 358) can be considered alongside this review's findings about intervention development and ownership. These were discussed in sections 4.3.1 and 4.4.2.

Paardekooper's (2002) finding in particular on the superior impact of the development of problem-focused coping strategies, as opposed to emotion-focused ones, in respect of children's psychosocial functioning, appears to provide corroborative evidence relating to questions posed by Eastmond *et al.* (1994) concerning adult refugees. These authors, cited by Bracken *et al.* (1997: 437), studied Bosnian refugees as they tried to make a home in Sweden and were left to wonder (1994, p 9):

...whether access to extensive psychological assistance may in fact ... promote helplessness, in the absence of other structures to reconstitute a meaningful life.

As far as the psychological aspects of such interventions with children are concerned, especially if they involve minority world practitioners, the findings from Paardekooper's (2002) and Wolff *et al.*'s (1995a) studies in particular are in line with Bracken, Giller and Summerfield's observation (1997, p 439) that:

The challenge to Western NGOs and other agencies dealing with refugees and other victims of violence around the world is to establish ways of supporting people through times of suffering by listening and hearing their different voices in a way that does not impose an alien order.

Irrespective of the continuing debate about the appropriateness of the use of the concept of 'psychological trauma' (Pupavac, 2001) in relation to children and adults affected by armed conflict, we consider that the evidence of levels of physical and psychological disturbance manifest among the populations studied in the studies included in this review constitutes irrefutable evidence of the usefulness of finding a term such as 'traumatisation' to describe a range of symptoms that appear related to these experiences.

The present review could have gained in strength, if the actual studies reviewed had presented more qualitative data providing direct evidence of the interventions' acceptability to the recipients, to complement the predominantly quantitative data provided on socio-emotional and cognitive behaviours. It appears that the views of children and/or their parents involved in the projects described in these studies were not sought explicitly as part of the Wolff *et al.* (1995a) and Dybdahl (2001b) studies, although Wolff *et al.* report that the children had more active roles in the day-to-day running of the orphanage after its reorganisation. Paardekooper (2002, p 175), on the contrary, reports that the contents of the 'Contextual' programme at least 'tried to stay close to the wishes and the experiences of the children involved'. She related this directly to the finding of greater effectiveness of this programme which encourage problem-focused coping, as:

This is considered to improve children's stress-tolerance and could enhance their self-confidence.

As was touched upon above, this review could also have been strengthened by the existence of robust evaluations that allow comparison of different levels of individualisation. This could have been in the form, for example, of evaluations of one-to-one interventions that use some form of comparison group design, or studies comparing one-to-one or group interventions with differing intensities of individual work. Without such studies, an implicit sub-question of this review – whether it makes a difference whether work is done at the individual or group level – remains unanswered. A recent, though not controlled, study of one-to-one therapy for children aged 12–17 years, conducted in an African refugee settlement, suggests that such an intervention may be both feasible and promising (Onyut *et al.*, 2005).

The reviewers consider that this review's key messages cannot be restricted to the review's explicit findings about what works for young children affected by armed conflict. These findings need to be placed firmly within the context of the life experiences of the children who have participated in evaluative studies. Disturbing evidence of the uncertain fate that may await even those refugee children who have been successfully reached by humanitarian interventions is presented by Paardekooper (2002, p 95).

Six weeks after the end of the intervention, just after the post-assessment had been completed, the authorities in Addis Ababa ordered all South Sudanese refugees, including those with official permission to stay, to return to the refugee camps at the Sudanese border from where they had come to the Ethiopian capital. They were apparently considered a threat to the town's civil stability.

Nothing is known about the subsequent experiences of the children who took part in the study. The recent crisis in the south, and now the humanitarian crisis in Darfur, in Western Sudan, suggest that serious fears for their future are justified. Indeed, in considering what are the key messages from this review, account should also be taken of the further experiences that may await refugee children returning to their countries of origin after a conflict: the landmines with which the soil of at least 68 countries is riddled (Machel, 1996), the poverty and chronic poverty that are frequent sequelae to violent conflict (Goodhand, 2001), and the severe shelter, food, water, sanitation, health and education deprivation that results (Gordon *et al.*, 2003).

The search for effective interventions, along the lines described in this review, can only ever be justified alongside concentrated efforts to address and eliminate the horrifying effects of armed conflict of which children are, totally unjustifiably, the primary victims.

5.2.2 Methodological difficulties in conducting this review

Figure 3.1 forms an illustration of the difficulties encountered in searching for relevant studies. Since we threw our net wide with very sensitive search terms, a large number of studies needed to be screened only to be set aside as simply not being on topic.

The exclusion of papers on the basis that they needed to be evaluative, but also not be single case studies, posed ethical dilemmas for at least one member of the Review Group. As there are so few papers available on the highly topical and important subject of this review and, given the extremely difficult circumstances under which many of the reported interventions were carried out, it was painful to have to exclude descriptive studies. However, excluding them was consistent with the review question and inclusion criteria agreed upon by the Group, working within the framework of the EPPI-Centre initiative, which aims to contribute to the search for robust evidence of effectiveness. The reviewers do, however, consider that conducting a future systematic review of this broader literature might be eminently worthwhile. Such a review might usefully ask, for example, what is known about the impact of armed conflict on children, or what is known about the views of children and others about the meaning of, and responses to, armed conflict.

The decision to exclude single case studies was also not taken lightly. However, with such a design it is difficult to see how an individual's outcomes can be linked causally to any intervention. As a result of this design requirement, papers dealing with interventions in, for example, the UK and USA, featured much less frequently, as minority world interventions appear to rely much more heavily on this evaluation approach. Psychodynamic theories often underpin interventions reported as single case studies, especially in the older literature we screened as part of this review.

We were pleased to find this observation shared, at least to an extent, in one of the oldest, and highly influential, reports on a group intervention with children affected by armed conflict, namely Anna Freud's work in the Hampstead Nurseries with six Jewish children from the 'Kindertransport', after the Second World War. The nursery work, while delivered on a group basis, provides findings

only on a case-by-case basis. In her conclusion, she writes (see Freud and Dale, 1951, p 165):

'Experiments' of this kind, which are provided by fate, lack the satisfying neatness and circumscription of an artificial set-up. It is difficult or impossible to distinguish the action of the variables from each other ... In our case, further, it proved impossible to obtain knowledge of all the factors which have influenced development ... Under such circumstances, no claim to exactitude can be made for the material which is presented here and it offers no basis for statistical considerations.

We were disappointed not to be able to broaden out our search to papers not written in English, for purely pragmatic reasons, as the reviewing process required at least two reviewers with a working knowledge of each language used. We do not know how many relevant studies were missed by not searching foreign language sources of studies, although we consider that research in this field must usually be disseminated with the awareness that it needs to reach an international and largely English-speaking audience. Nonetheless, the negative effect of this restriction was highlighted when another paper was discovered, which reports on one of the studies included in our map (Elklit, 2001), but in greater depth and detail. It was written in Danish and it proved impossible to acquire a translation within the timescale available. For any future update of this review, it would definitely be useful to translate and study this paper's contents rigorously to establish whether it qualifies for inclusion in an in-depth review.

Other practical problems arose from the fact that many items could only be obtained via interlibrary loans and had appeared as chapters in books; both issues increased the time that had to be expended on acquiring titles before the review could move on to looking at studies in detail.

Difficulties encountered at the data-extraction and synthesis stage centred predominantly around the lack of comparability, as we shall see in section 5.2.3.

5.2.3 Interpreting the review's findings

The features characterising all three included studies have already been described in section 4.3.1. Characteristics dividing, rather than uniting, them include the different family situations in the three studies: Paardekooper's sample were living with parent(s) or caregivers; Dybdahl's sample were living with their mother or both parents; and the intervention group in Wolff *et al.* were orphaned or presumed orphaned.

Only the South Sudanese children studied by Paardekooper were refugees in a different country from the conflict-ridden country from which they had fled. The Bosnian and Eritrean children formed part of internally displaced populations, who therefore, for instance, still spoke the same language(s) as were spoken in their wider environment and shared a similar culture to that of their host community. The Sudanese children explicitly reported being harassed and stoned by Ethiopian children as one of the additional daily hassles they had to contend with as refugees (Paardekooper, 2002, p 92).

Despite the differences between the types of refugee setting described in the three studies, we are inclined to generalise to all such settings, especially given Paardekooper's (2002, p 212) observation that:

We should probably abandon the idea of a refugee camp as a safe haven after leaving the war-stricken area.

Given that majority world practitioners in particular should be able to benefit from these evaluative studies, it is regrettable that we do not have more detailed information about the contribution made by the local researchers and practitioners to the shaping of the intervention and the modification of research tools. This is especially true since each study reports on the valuable input and added value resulting from the contribution of local practitioners and researchers to both the intervention itself and to the design and conduct of the associated research. The reporting in each study in its own individual way remains dominated by the perspective of the lead researcher, at times verging on the ethnocentric.

Beyond the mention of research instruments being 'culturally adapted' to local circumstances, the issue of cultural appropriateness of the intervention is not addressed in depth in any of the three studies. Paardekooper (2002, *passim*) goes further than the other authors in highlighting how the format of the interventions had been informed by the culture of the mainly Nuer refugees taking part. This had resulted in inclusion of traditional songs, dances, storytelling and games in each session of the programme. She also notes that the Contextual programme appeared more acceptable to the Sudanese counsellors than the intra-psychic programme (2002, pp 174 ff), as they felt that this way they were teaching the children responsibility:

They felt that in the Contextual programme they were helping the children to build up their life again, while they could not really see the use of talking about things from the past that the children would rather forget. They would not avoid discussing traumas, but they certainly would not stimulate it.

Paardekooper considers that this situation raises questions about the cultural appropriateness of the concept of trauma, and acknowledges that risk and protective factors may be specific to the cultural context. Her observations are similar to those by De Berry and Boyden (2000) about the way cultural context may be more influential than chronological age in influencing resilience and vulnerability. Wolff *et al.* (1995a) and Dybdahl (2001), on the other hand, explicitly acknowledge that their interventions were grounded in majority world approaches.

We noted that, in these studies, there was no evidence of a genuinely anthropologically informed approach to the design of the interventions, or the evaluation of the situation of children affected by armed conflict, such as those of the children from Buthan in Nepalese refugee camps studied by Hinton (2000). Therefore the reviewers are mindful of the exhortation by Fish (2004, p 79) that, despite growing evidence for significant commonalities among the changing and diverse healing and therapy practices around the globe:

...these (commonalities) can be seen in part as reflecting the global homogenisation of cultures. And they suggest the need for empirical verification of the cross-cultural generality of basic psychological processes, especially since the cultural variability against which these processes must be evaluated is rapidly diminishing.

We make no apologies for focusing the present review on studies involving interventions with children aged eight or under. This age group is prominent among the majority world children affected by armed conflict, yet much less is known about them than about older children and young people aged 12 to 18 affected by armed conflict. It is these latter age groups which are covered for instance in the literature on child soldiers. Much work remains to be done on comparing the relative effectiveness of this type of intervention for different age groups, and on gathering more detailed impact data on the very youngest, pre-verbal children in particular. The three studies included hardly provide evidence about children aged below four. We are forced to conclude, therefore, that we cannot be sure that the significant findings reported here are generalisable to the youngest age group.

Finally, a notable, but not at all surprising, absence from all of the studies included in this review is any discussion of the potential impact on cognitive and psychosocial outcomes of children's individual personality and temperament characteristics. Yet, recent research data support the contention that genetic make-up interacts with environmental factors in determining the degree of individual resilience and vulnerability in the face of extreme adversity (Caspi, *et al.*, 2003a; 2003b). The relative importance of such factors in the context of the effectiveness of group interventions for children affected by armed conflict remains to be explored.

Such findings would be easier to take into account in the design and implementation of interventions in places not directly affected by armed conflict. For instance, in working with refugee communities in the UK, it may be possible to combine group interventions with those at the individual level for the most seriously traumatised children.

5.3 Implications

In this section, we consider some potential implications for policy, practice and research of this review's findings, as well as drawing some overall conclusions from our data.

5.3.1 Policy

The sheer horror of the situations encountered by the children and their families and carers who participated in the interventions reviewed here, initially makes any policy recommendation seem rather futile – other than, that is, a passionate call to those in any Government to end the global tragedy of armed conflict as it affects children. Yet, from a pragmatic point of view, the reviewers consider that the few studies contained in this review each produced sufficiently robust findings to inform tentative policy recommendations, while they remain fully aware of the hazards posed by generalisations from such a small sample.

As the reported conditions appear to be representative of those encountered by children affected by armed conflict in majority world countries, support for group interventions with young children affected by armed conflict should definitely be a policy priority, whether this be with displaced populations or refugee communities,

and in-country or out-country. Evidence of the effectiveness of residential care for this group is, however, less convincing.

Evidence from all three studies suggests that interventions focused on 'normalisation' of the daily living conditions of children affected by armed conflict and strengthening their coping mechanisms were more successful than other types of interventions or more useful than 'usual services'. The extent to which a proposed intervention focuses on 'normalisation', should therefore inform policy decisions about practical support and funding.

The involvement of non-policymaker service users in these processes is now commonly held to be critical in developing sound interventions. This approach encompasses the perspectives of both adults and children as active or prospective recipients of interventions, and, ignoring it, it is argued, increases the likelihood of failure. Two of the studies in this review, Paardekooper's study in particular, provide useful examples of how this view 'from the ground' can be incorporated even in challenging field conditions.

Two more factors emerge which may, after further research, come to be influential on policy initiatives in this area. One is the possible role of children's 'agency' identified by Paardekooper, in achieving significant positive results, which echoes other policy-related work in this area, notably that by Boyden (2003). Although it is not as yet supported unequivocally by the review's findings, this may eventually have to be taken account in policy decisions about interventions with this target group, and set within the wider context of theories of human agency and their implications for social theory and social policy (Greener, 2002). The second concerns the impact of context-specific factors and the role of indigenous practitioners in designing interventions that take account of these. This role goes way beyond acting as interpreters/translators of Western/Eurocentric approaches, as the three studies demonstrate, and, once more, further research may confirm that these factors are likely to be a decisive influence on the effectiveness of any such interventions. At present, though, such a conclusion cannot yet be drawn.

5.3.2 Practice

Pointers arising from this review for practitioners and NGOs active in this field do not diverge substantially from those identified under the policy implications heading above. The emerging evidence from this review for the effectiveness of particular types of group interventions should be considered in the design and implementation of interventions with young children affected by armed conflict. To render this feasible requires several conditions to be met.

Firstly, for research to inform practice successfully, up-to-date and robust evidence needs to be available to practitioners in accessible formats. This demands action both from researchers and research funding bodies, and from Government agencies and NGOs. The former should produce and disseminate authoritative research summaries and digests via the internet, programmes of practitioner seminars, and so on. Such information should be readily available and regularly updated, so that it can be accessed under crisis conditions. The latter should expand their research and development capacity, and invest in strengthening the capacity of their employees and the agencies they fund, to be reflective and critical users of research data.

Secondly, in order for practitioners to be well placed to use research evidence in shaping interventions in this area and others, an adequate project development phase should be built into project management plans. Such a phase would allow for surveying the available information on effectiveness. Paardekooper's (2002) study exemplifies the usefulness of such an approach.

Thirdly, the importance of well-designed evaluations cannot be underestimated and, if funding agencies do not already insist on it, funding bids should explicitly request support for formative and summative external evaluation as a matter of course. NGOs should moreover enable, and provide support to, their staff to engage in ongoing monitoring and self-evaluation. The different phases of the Wolff *et al.* study (1995a, 1995b and 1999) illustrate the form such ongoing evaluations can take.

Such conditions pose a particular challenge to NGOs in majority world countries, whose ability to develop such resources may be severely limited, as illustrated in the study by Wolff *et al.*, where Western expertise was brought into the country by the Eritrean government. Western NGOs have a significant role to play in enabling such access to indigenous NGOs and Government agencies.

If interventions are to be optimally effective, a great deal of work remains to be done on developing pathways for optimal co-operation and improving mutual understanding of culture-specific contextual features between practitioners from the countries affected by armed conflict, particularly those in majority world countries, and those from minority world countries. In making this assertion, the reviewers have taken into account the different standpoints quoted in section 1.3. On the basis of the findings of this review, we consider that this recommendation is justified.

Dybdahl's (2001b) study sketches such a process in the context of the Bosnian displaced population, while Paardekooper (2002) provides a more in-depth illustration. This also applies to the relationship between service users and minority world practitioners, as illustrated in the studies by Elklit (2001) and O'Shea *et al.* (2000), which form part of the map of keyworded studies for this review (see Figure 3.1 and Appendix 3.1).

In section 5.3.3, the reviewers argue that further research is needed on how group interventions can be rendered optimally sensitive to individual differences between children. We are confident that practitioners will be keen to achieve this, given the evidence that group interventions affect different psychological pathways which are complementary to, or indeed missing from, those affected by interventions at the level of the individual child and are therefore likely to be more effective.

Naturally, the question arises as to whether any particular kind of training is required to help practitioners implement the kind of interventions described here in order to guarantee their quality. Each study provides some information on training provided to local practitioners, but the reviewers consider this insufficiently detailed to inform any explicit training suggestions. In each study, local practitioners were involved in the design and implementation of the intervention, and in training others involved in the implementation. It is this point that we believe deserves serious research attention, as it may have significant implications for practice in both majority and minority countries.

5.3.3 Research

The Review Group noted that the difficulties currently inherent in accessing the relevant research, as described in Chapter 3, are bound to affect the design of further evaluative research in this area. In section 5.3.1, we identified possible remedies to eliminate these barriers to further well-informed research endeavours. The current review could usefully be supplemented with a systematic review of qualitative research and the case study literature on one-to-one interventions; this would bring under consideration a wider range of interventions undertaken in the minority world, where the latter strategy is more widespread.

The importance of cross-cultural understanding, which was identified in the context of intervention practice in section 5.3.2, applies equally to the context of designing evaluative research. Again it applies to the relationships between minority and majority world practitioners and researchers, and to that between users and practitioners and/or researchers. And again, the studies by Paardekooper and Dybdahl highlight how this can be achieved successfully, the former in more detail than the latter. The quote from Bracken, Giller and Summerfield (1997, p 439) in section 5.2.1 reminds us that this should be a priority in any research undertaken in this area.

The fact that so few controlled studies of interventions were identified in this systematic review is not surprising, given the constraints encountered in situations of armed conflict. However, this should be no reason not to give active encouragement and support to their rigorous evaluation, employing robust methodologies, in the light of the benefits young children stand to gain from effective interventions. The psychosocial and cognitive development of vast numbers of young children globally is jeopardised by armed conflict. The least the research community and public aid agencies and NGOs owe them is not to exacerbate their difficulties by ill conceived and ill informed, even if well-intentioned, interventions. Sufficient resources and evaluation expertise also need to be allocated strategically and on an international scale to develop what currently is an extremely patchy evidence base for these interventions. The set-up and successful completion of an experimental evaluation is illustrated well by Paardekooper's (2002) extremely detailed report of her study.

However, it is not just the need for more sufficiently rigorous evaluative research of interventions as a whole that is highlighted by the findings of this review. Equally, there are several design details concerning both interventions and research in this area, which prompt a call for further research. Prominent among these are the factors identified in section 5.2.3, temperament and personality differences, which may predispose children to a particular way of responding to adversity. Further research is urgently needed on the interaction between genetic and environmental factors in responding to adversity.

Being able to take account of such factors in fine-tuning interventions and related research with children affected by armed conflict should contribute to their continual improvement. One size of group intervention may not fit all, but it should be possible to identify ways of improving the likelihood that such interventions may benefit children with widely differing temperaments and personalities.

Exploring this issue further may be easier within the context of interventions with refugee communities undertaken in countries such as the UK and the Nordic countries, which are not themselves affected by armed conflict (apart from the

continuing civil conflict in Northern Ireland). Recent epidemiological research in Oxford by Fazel and Stein (2004, p 134) among children aged 5 to 18, suggests an urgent need for sensitive psychosocial interventions with refugee children in the UK. The authors found that, compared to ethnic minority and white controls:

More than a quarter of refugee children had significant psychological disturbance – greater than in both control groups and three times the national average. These refugee children show particular difficulties in emotional symptoms.

The reviewers would also recommend that researchers and mental health agencies in minority world countries involved in designing interventions for this population take serious note of the research findings from majority world countries which formed the focus of the present review – in particular, of the findings suggesting that children's agency may be a significant factor in the effectiveness of group interventions.

The issue of children's agency deserves further research attention, as does the concept of resilience. Even though Paardekooper (2002) did not introduce theories concerning the role of 'agency' into the discussion of her significant findings, this may yet prove a pertinent factor in mediating the impact of interventions with children directly affected by armed conflict. Work by Boyden (2003), and Boyden and De Berry (2004) suggests as much. We are mindful of Garbarino's (2003) admonition that resilience is not absolute and that the experience of violence, coupled with an accumulation of other risk factors, may prove harmful to almost any child. We also take seriously his warning that resilience in gross terms may obscure other concurrent and subsequent negative effects on psychological functioning

5.3.4 Conclusion

If we accept that armed conflict affecting children is not likely to be totally eliminated within the near future, then we implicitly accept that local and international state agencies, NGOs and individuals will continue to look for optimal means of supporting children's development and living conditions under such circumstances. From this follows the need to continue the search for effectiveness (Dybdahl, 2001b, p 1228).

We consider that the three studies included in this systematic review constitute evidence that interventions can help improve aspects of psychosocial functioning in children and that the evidence is strongest for group interventions focusing on normalisation. This review also shows that valid evaluations can be attempted even in situations of continuing armed conflict, and that these therefore serve as a significant example to all those working with and/or researching interventions with young children affected by armed conflict.

Even though it is as yet not unequivocally supported by the review's findings, we believe that Paardekooper's hypothesis, mentioned in section 5.1.3, that children's active participation may have been an important mechanism in making the intervention work, demands further research. We believe there is sufficient evidence of the likely importance of this factor to justify taking it into account when developing any practical interventions of this nature. In practice, that would mean designing interventions aimed at helping children identify and implement problem-

focused coping strategies, while at the same time offering general practical and 'listening' support.

We further conclude that the evidence presented here constitutes a strong argument for the usefulness of systematic reviews. We would argue that, even if a future review of this kind were to incorporate different study types, including descriptive studies, a systematic review of such studies, employing transparent inclusion and exclusion criteria, would still be preferable to a non-systematic one.

We are determined that the perspectives of children and parents affected by armed conflict should be included in any update of this review and look forward to involving them in gaining a user perspective on the present review.

The Review Group is cautiously optimistic that it has made a small contribution to the effort to identify effective interventions, aimed at mitigating the impact of the direct experience of armed conflict on the cognitive and psychosocial development of more than 20 million children worldwide.

Finally, we want to reiterate our earlier observation that the search for effective interventions along the lines described in this review, can only ever be justified alongside concentrated efforts to address and eliminate the horrifying effects of armed conflict of which children are, totally unjustifiably, the primary victims.

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Appendix 1.1: Advisory Group membership

John Bennett	Organization for Economic Co-Operation and Development (OECD)
Bridget Egan	King Alfred's College, Winchester
Tina Hyder	Save the Children
Linda Pound	London Metropolitan University
Norma Raynes	Salford University, South Trafford Primary Health Care Trust
Naomi Richman	Psychiatrist
Judy Stephenson	Robert Owen Children's Centre/Greenwich Early Years and Development and Care Partnership
Mike Wessels	Psychologists for Social Responsibility
Sheila Wolfendale	University of East London
Jeremy Woodcock	University of Bristol

Appendix 2.1: Inclusion and exclusion criteria

For mapping

Studies at the mapping stage were included if they meet *all* the following criteria:

- i. The provision under study is (or includes) an intervention which aims to mitigate the effects of armed conflict upon children.
- ii. The population under study is children aged eight years old or younger. (The population might also include older children, but needs at least in part, to be in the birth to eight range. In longitudinal studies, outcomes may be measured after children are 8 years old but the intervention under study needs to have been experienced by children when aged 8 or under.)
- iii. The population under study has direct experience of armed conflict.
- iv. The provision is aimed at psychosocial or cognitive development, or wellbeing. The provision is not for treating purely physical problems. Studies of strictly medical interventions will only be included where these also explicitly address outcomes for emotional health, cognitive development or wellbeing, or are interventions in the psychiatric area.
- v. The study is evaluative:
 - It evaluates the impact of interventions on children’s outcomes, i.e. using retrospective or prospective single group and/or comparison group designs to assess whether the intervention works well (cf. EPPI-Centre keywording strategy version 0.9.7) but not a case study design where children are examined only at the individual level and no findings are presented for a group as a whole, and/or
 - It is a systematic review of such studies, i.e. the review is explicit in its reporting of a systematic strategy used for (a) searching for studies, (b) the criteria for including and excluding studies in the review and (c) methods used for assessing the quality and collating the findings of included studies (cf. EPPI-Centre, 2003a).
- vi. The study is published in English.
- vii. The intervention was reported on after 1939.

Five further criteria for the in-depth review

- viii. The study is a primary study and not a systematic review.
- ix. The study design includes use of a control or comparison group.
- x. The study meets reporting quality 1, namely that the research questions are stated, i.e. the authors provide a succinct statement describing what the study is trying to explore/describe/discover/illuminate and these research questions

are stated in the abstract, in the introduction or background section or in a separate sections entitled, for example, aims and objectives.

- xi. The study meets reporting quality 2, namely that at least some information is reported about the methods used in the study in each one of the following areas: the tools and people used to collect data; how the tools measure/capture the phenomenon under study, and the sampling and recruitment methods.
- xii. The study meets reporting quality 3, namely that at least some information is provided on the sample used in the study, i.e. the units from which the data were collected, for at least two of the following characteristics: age, sex, socio-economic status, ethnicity, health status, or other relevant characteristics.

Appendix 2.2: Search strategy for electronic databases

Bibliographic databases

Psycinfo, EBSCO, 15 August 2003
Eric 1966–, Cambridge Scientific Abstracts, 7 August 2003
British Education Index, [Dialog@Site](#) 7 August 2003
IBSS, 7 August 2003
Social Services Abstracts, Cambridge Scientific Abstracts, 7 August 2003
Sociological Abstracts, Cambridge Scientific Abstracts, 7 August 2003
Childdata, National Children's Bureau, 8 August 2003
Caredata, Social Care Institute for Excellence, 9 October 2003
Australian Education Index, [Dialog@Site](#) 8 August 2003
ASSIA, Cambridge Scientific Abstracts, 7 August 2003
Campbell Collaboration C2-Spectr database
Cochrane Library

Library catalogues (searched between August and December 2003)

COPAC and British Library, 27 September 2003
Barnardo's
Oxford Refugee Study Centre
Tavistock and Portman NHS Trust: www.tavi-port.org, 18 December 2003
UNHCR
Medical Foundation for the Care of Victims of Torture (visit
British Library of Development Studies
Institute for Development Studies

Websites and other databases (searched between August 2003 and January 2004)

World Health Organisation, 10 August 2003
UNICEF
ESRC Regard
Sosig
Joseph Rowntree Foundation
Unesco
Childcare Canada resources
Future of Children
United Nations
Medical Foundation for the Care of Victims of Torture
Children and Armed Conflict Unit, 13 November 2003
War Child
forcedmigration.org, 8 October 2003
watchlist.org
Institute for Security Studies, South Africa, 8 November 2003

Save the Children (international + various national sites, including Radda Barnen)
Forced Migration Review: www.fmreview.org
International Resource Committee: www.theirc.org
Child Rights Information Network
Tizard Centre, University of Kent in Canterbury
International Refugee Centre, Copenhagen www.irct.org/usr/irct/home.nsf
Psychosocial Network
Oxfam
Médecins sans Frontières
Medact
CAFOD
USAID, 17 January 2004

The search strategy was as follows:

Set 1: Age categories

infant or infants or toddler* or baby or babies or preschool child* or 'pre-school child' or young child* or elementary # child* or kindergarten child* or preschool boy* or 'pre-school boy' or young boy* or elementary # boy* or kindergarten boy* or 'pre-school children' or 'pre-school boys' or 'Grade 1' or 'Standard 1' or Grade one or Standard one or early childhood or 'Grade 2' or 'Standard 2' or Grade one or Standard one or preschool girl* or 'pre-school girl' or young girl* or elementary # girl* or kindergarten girl* or preschool pupil* or 'pre-school pupil' or young pupil* or elementary # pupil* or kindergarten pupil* or kindergartner* or 'pre-school girls' or 'pre-school pupils' or primary # girl* or primary # boy* or primary # child* or primary # pupil*

Set 2: Armed conflict categories

armed intervention* or armed conflict* or armed incursion* or air strike* or wartime or warfare or air fight* or air attack* or air operation* or war or warring or wars or war zone* or war zone* or military or revolution* or invasion* or coup or coups or battle* or siege* or bomb* or land mine* or landmine* or blockad* or guerrilla* or hostilities or insurrection*

Set 3: Exclusions

agricultural revolution or industrial revolution or baby boom or baby bust

Combine Set 1 AND Set 2 NOT Set 3.

* = truncation/wildcard

= wild word

Appendix 2.3: Journals handsearched

Future of Children (online journal) 1991–2003

Journal of Refugee Studies 1998–2002

Medicine and War (subsequently *Medicine, Conflict and Survival*) 7(4) 1991 to 18(4) 2002 except 9(1), 11(1,2), 14(1,4), 15(3,4) 16(3,4), 17(1,3) (The only accessible set was in the Library of the Medical Foundation for the Care of Victims of Torture, and not all issues were available.)

Forced Migration Review 1–18 (1998–2004)

Torture (index) 1991–2002

Appendix 2.4: EPPI-Centre Keyword sheet, including review-specific keywords

V0.9.7 Bibliographic details and/or unique identifier

<p>A1. Identification of report Citation Contact Handsearch Unknown Electronic database (Please specify.)</p> <p>A2. Status Published In press Unpublished</p> <p>A3. Linked reports <i>Is this report linked to one or more other reports in such a way that they also report the same study?</i></p> <p>Not linked Linked (Please provide bibliographical details and/or unique identifier.)</p> <p>A4. Language (Please specify.)</p> <p>A5. In which country/countries was the study carried out? (Please specify.)</p>	<p>A6. What is/are the topic focus/foci of the study? Assessment Classroom management Curriculum* Equal opportunities Methodology Organisation and management Policy Teacher careers Teaching and learning Other (Please specify.)</p> <p>A7. Curriculum Art Business studies Citizenship Cross-curricular Design and technology Environment General Geography Hidden History ICT Literacy – first language Literacy further languages Literature Maths Music PSE Physical education Religious education Science Vocational Other (Please specify.)</p>	<p>A8. Programme name (Please specify.)</p> <p>A9. What is/are the population focus/foci of the study? Learners Senior management Teaching staff Non-teaching staff Other education practitioners Government Local education authority officers Parents Governors Other (Please specify.)</p> <p>A10. Age of learners (years) 0–4 5–10 11–16 17–20 21 and over</p> <p>A11. Sex of learners Female only Male only Mixed sex</p>	<p>A12. What is/are the educational setting(s) of the study? Community centre Correctional institution Government department Higher education institution Home Independent school Local education authority Nursery school Post-compulsory education institution Primary school Pupil referral unit Residential school Secondary school Special needs school Workplace Other educational setting (Please specify.)</p> <p>A13. Which type(s) of study does this report describe? A. Description B. Exploration of relationships C. Evaluation a. naturally-occurring b. researcher-manipulated D. Development of methodology E. Review a. Systematic review b. Other review</p>
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How effective are measures taken to mitigate the impact of direct experience of armed conflict on the psychosocial and cognitive development of children aged 0–8?

A16. Expansion of 10: Age of learners

- 0–2
- 3–5
- 6–8
- 9+

A17. Expansion of 12: Other settings

- Clinical setting (non-medical)
- Detention camp
- Internal displacement setting
- Medical setting – in-patient
- Medical setting – outpatient
- Orphanages/children’s homes
- Range of early years settings (e.g. day nurseries, nursery schools, nursery classes, 24-hour nurseries, playgroups, playschools, pre-schools, family centres)
- Refugee camp
- School
- Other community setting
- Other (Please specify.)

A18. Type of intervention

- Art therapy
- Cognitive-behavioural therapy
- Counselling – group
- Counselling – individual
- Drama therapy
- Educational intervention
- Family therapy
- Music therapy
- Play therapy
- Psychoanalytic therapy
- Psychotherapy
- Spiritual therapy
- Other (Please specify.)

A19. Aspects of intervention described

- Access
- Costs
- Duration
- Follow-up
- Frequency
- Length of sessions
- Methodology
- Procedures for terminating therapy
- Staff training
- Staffing
- Theoretical basis

A20. Process/outcome characteristics described

- Evaluation of processes
- Outcomes for children
- Outcomes for parents
- Outcomes for service providers
- Outcomes for community

A21. Are the majority of children from the same country?

- Yes
- No
- Don’t know

A22. If Yes: country of origin of children

.....

A23. Ethnic group of children

.....

A24. Does intervention take place in country of children’s origin?

- Yes
- No
- Don’t know

A25. If Yes: did the intervention happen during the conflict?

- Yes
- No
- Don’t know

A26. Decade(s) during which intervention took place

.....

A27. If parents were a population focus, specify:

- Mothers
- Fathers
- Carers
- Other (Please specify.)

Appendix 3.1: Details of studies included in the systematic map

Item	Study type	Age of children	Settings	Country of intervention	Type of intervention	Process/outcomes characteristics described	Country of origin of children	Was intervention in country of children's origin? If yes, was it during conflict?	Decade(s) during which intervention took place
Abdulai <i>et al.</i> (2002)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	6–8 9+	Refugee camp	Liberia	Fostering Protection	Evaluation of processes Outcomes for children Outcomes for parents	Sierra Leone	No	1990s
Barath (1999)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	6–8 9+	Refugee camp	Slovenia	Art therapy Creative activities workshops	Outcomes for children Outcomes for community	Croatia	No	1990s
Barath (2003)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	3–5 6–8 9+	Primary school Secondary school	Croatia	Art therapy	Evaluation of processes Outcomes for children	Croatia	Yes (Yes)	1990s
Bilanakis <i>et al.</i> (1999)	Evaluation of naturally occurring intervention (prospective pre and post-intervention data for single group)	6–8 9+	Home Primary school	Greece	Foster care	Outcomes for children Outcomes for service providers	Bosnia-Herzegovina Serbia	No	1990s

Appendix 3.1: Details of studies included in the systematic map

Item	Study type	Age of children	Settings	Country of intervention	Type of intervention	Process/outcomes characteristics described	Country of origin of children	Was intervention in country of children's origin? If yes, was it during conflict?	Decade(s) during which intervention took place
Charnley and Langa (1994)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	6–8 9+	Orphanages/ children's homes	Mozambique	Foster care Residential care Family reunification	Outcomes for children Outcomes for parents	Mozambique	Yes (Yes)	1980s 1990s
Derib (2002)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	3–5 6–8 9+	Refugee camp	Ethiopia Kenya	Fostering Group care	Evaluation of processes Outcomes for children Outcomes for parents	Sudan	No	1990s
Dona <i>et al.</i> (2001)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	3–5 6–8 9+	Commune	Rwanda	Fostering	Evaluation of processes Outcomes for children Outcomes for parents	Rwanda	Yes (No)	1990s
Dybdahl (2001b)	Evaluation of researcher manipulated intervention (prospective randomised controlled trial)	3–5 6–8	Internal displacement setting Community setting	Bosnia	Counseling – group Medical Therapeutic discussion groups International Child Development Programme Psychoeducation Health care	Outcomes for children Outcomes for parents	Bosnia (Muslim Bosnians)	Yes (No)	1990s

Appendix 3.1: Details of studies included in the systematic map

Item	Study type	Age of children	Settings	Country of intervention	Type of intervention	Process/outcomes characteristics described	Country of origin of children	Was intervention in country of children's origin? If yes, was it during conflict?	Decade(s) during which intervention took place
Elklit (2001)	Evaluation of researcher-manipulated intervention (Prospective controlled trial, non-randomised)	3-5 6-8 9+	Refugee camp	Denmark	Psychoeducation	Outcomes for parents Outcomes for service providers	Kosovo	No	1990s?
Honwana and Pannizo (1995)	Evaluation of naturally occurring intervention (retrospective, only post-intervention data for single group)	0-2 3-5 6-8 9+	School Home	Mozambique	Family reunification Foster care	Outcomes for children	Mozambique	Yes (Intervention began during conflict and continued after ceasefire.)	1980s 1990s
O'Shea <i>et al.</i> (2000)	Evaluation of researcher-manipulated intervention (prospective pre and post-intervention data for single group)	3-5 6-8	Primary school	UK	Counseling – group Emotional cognitive enrichment Parenting education Psychoeducation	Outcomes for children	Bosnia, Sub-Saharan Africa, Middle East	No	1990s
Paardekooper (2002)	Evaluation of researcher-manipulated intervention (prospective randomised controlled trial)	6–8 9+	Community setting	Uganda Ethiopia	Art therapy Counseling – individual Singing Dancing Games Play	Prospective evaluation of processes Outcomes for children	Sudan	No	1990s

Appendix 3.1: Details of studies included in the systematic map

Item	Study type	Age of children	Settings	Country of intervention	Type of intervention	Process/outcomes characteristics described	Country of origin of children	Was intervention in country of children's origin? If yes, was it during conflict?	Decade(s) during which intervention took place
Wolff <i>et al.</i> (1995a)	Evaluation of naturally occurring intervention (retrospective only post-intervention data for intervention and comparison group)	3–5 6–8	Internal displacement setting Orphanages/ children's homes	Eritrea	Social reorganisation of a residential care setting	Retrospective evaluation of outcomes for children Outcomes for service providers	Eritrea	Yes (Yes)	1980s

Appendix 4.1: Reports of studies included in the in-depth review

Papers indicated in bold are those that have been used to represent the study in the text of this review report. All reports are detailed in full in section 6.1.

1. A psychosocial intervention for Bosnian refugees

Dybdahl (2001b)

Dybdahl (2001a)

2. Psychosocial interventions for Sudanese refugees

Paardekooper (2002)

3. A reorganised orphanage for Eritrean refugees

Wolff et al. (1995a)

Wolff et al. (1995b)

Wolff et al. (1999)

Appendix 4.2: Synthesis table

Dybdahl (2001), Bosnia-Herzegovina

Study type	Researcher-manipulated evaluation; randomised controlled trial (RCT)
Aim	A study to evaluate the effects on children (mean age 5.5 years) in war-torn Bosnia-Herzegovina of a psychological intervention programme consisting of weekly group meetings for mothers for five months. A secondary aim was to investigate children's psychosocial functioning and the mental health of their mothers before and after the intervention.
What was studied?	<p><i>Sample:</i> Although attrition rates for the two groups are not accurately given, at the start of the 1996 study 87 mother-child dyads from (1) a refugee camp (40%) and from (2) private accommodation (60%) in Tuzla, were allocated to two groups as follows: 42 to an intervention and 45 to a control group. Background variables for mothers: mean maternal age was 30.7 years (range 20–44); mean child (mixed sex) age was 5.5 years. Mean years of maternal education: 5.3 years; 72% were fully literate. Marital status: 63% living with husband, 36% husband deceased or missing; 1% divorced. Origins: 85% urban, 15% rural. Background variables for children: mean age at start of study = 5.5 years and extent to which they were exposed to traumatic war events. The author states that '...participants...were typical of, or better off than, the displaced population in general' but that trauma exposure in the study group was so severe that 'generalizations to the displaced Bosnian population are possible' (p 1225).</p> <p><i>Sampling:</i> All who met inclusion criteria (displaced, not participating in any other psychosocial intervention programme, children born in 1990 or 1991, unlikely to move from region before study end) were recruited to the study.</p> <p><i>Intervention:</i> Two-group evaluation where mother-child dyads were allocated at random to a psychosocial intervention programme that included five months of small group work for mothers and basic healthcare, or to a control group that consisted of free basic healthcare only.</p> <p><i>Measurement:</i> Data collection inventory consisted of (1) interview with mother; (2) interview with child; (3) interviewer's (psychologist's) evaluations of the child and mother-child interaction; (4) qualitative open-ended interviews; (5) 10-minute observation period of mother-child interaction. Possible baseline differences between the intervention and control group were investigated. Only one measure, haemoglobin values, was significantly different between the two groups; the intervention group had higher values.</p> <p><i>Measures:</i> All measures were reviewed for 'cultural appropriateness'. Children's measures comprised: (i) a measure of problems created by rating frequency of 12 psychological and psychosomatic problems commonly reported in traumatised children – such as bedwetting, sleep problems, headache, sadness, anxiety – during last 14 days, on a scale 1 (not at all) to often (10); three subscales developed through factor analysis (anxiety and sadness, withdrawal, psychosomatic – rated by mother); (ii) cognitive performance (Raven's Coloured Progressive Matrices); (iii) depression (scale used 14 out of 16 items from Birlson's Depression Inventory); (iv) scale on general functioning of child (e.g. sad/happy, peaceful/aggressive scales), rated by mother; (v) child's concentration problems in eight everyday situations, rated by mother; (vi) scale of eight undesirable behavioural characteristics ('anger', 'unpredictable violence', 'disturbs other children', 'withdrawn and closed', etc.); (vii) children's resources: scale of six behavioural characteristics such as 'active and interested' and 'happy'; (viii) US NCHS for weight for age and weight for height; and (ix) iron nutrition in child (details not given).</p>
How was it studied?	<p>Prospective random allocation of mother-child dyads into two groups, which were equivalent at baseline on most outcome measures. The randomisation process involved writing names on paper, mixing them and separating them 'at random' into two piles.</p> <p>Before and after measurement, with data collected by researchers and medics 'blind' to</p>

allocation. Post-intervention measurements taken 5–6 months after start of intervention. Informed consent was obtained from all participants.

Attrition from samples providing outcomes data cannot be calculated separately for each group. It is also not reported for the study as a whole but can be calculated to be between 25% and 43% (the number of participants in final outcome measurement varied from test to test). In terms of attendance in the intervention activities, seven of the intervention and five of the control group dyads dropped out before intervention completion.

Alpha reliability coefficients were described for many outcome measures used, others were described as 'correlating well' with reference to the published literature and all piloted.

Descriptive and inferential statistical analyses were reported, as well as qualitative analyses of interview data. Some correlation coefficients provided for pre- and post-test data. Two-tailed T-tests were carried out on baseline data, testing for differences. A one-tailed T-test was carried out for effects of intervention.

Paardekooper (2002), Ethiopia

Study type	Researcher-manipulated evaluation; randomised controlled trial
Aim	A comparison of two intervention programmes for the promotion of wellbeing of Sudanese refugee children. Also stated as 'to evaluate a low-cost, short term, group programme that can be implemented easily for refugee children in a developing country' (Paardekooper, 2002, p 169).
What was studied?	<p><i>Sample:</i> Sudanese refugee children living in Addis Ababa. To be included in the study, sample children had to score higher than 50 points on CBCL and Chuol/Nyachuol baseline measurements, indicating a degree of psychological complaints. Sample mixed sex and aged 5 to 16.</p> <p>Study sample of 207 children randomly assigned to the three study groups. Numbers assigned to each group: A (psychodynamic) = 68; B (contextual) = 69; C (control) = 70</p> <p><i>Sampling:</i> Attempts were made to register all Sudanese children in Addis Ababa, but many refugees were reluctant to register with authorities. Satisfactory sampling frame details provided.</p> <p><i>Intervention:</i> These are short-term (seven session) group (15 children) programmes with many creative activities in the context of a community mental health programme. The two interventions differ in that one aimed at dealing with factors in the past (psychodynamic programme), the other aimed at the context in which children live (contextual programme), learning to deal with daily stressors in a refugee camp. The experience of children in the control group is unclear, but it appears that they followed no programme, but participated twice in the same assessments as the experimental groups (Paardekooper, 2002, p 133). Full protocol for interventions is presented as an appendix to the paper.</p> <p><i>Measurement:</i> Outcome measures were made before and after the intervention. A baseline comparison of the three groups found them to be similar on demographic and outcome measures before the intervention.</p> <p><i>Measures:</i> Comparison was made for all standards subscales of CBCL, alternative subscales of CBCL and subscales of Chuol/Nyachuol questionnaire, KidCope, Social Support scores, Daily Problems questionnaire and demographic variables, such as age and the total number of years spent in Addis Ababa, in the camps and in exile.</p>
How was it studied?	<p>Prospective allocation into three groups. Groups were equivalent at baseline for most outcome and demographic variables. No detail of randomisation procedure.</p> <p>Before and after measurements were made by interviewers recruited and trained for the study. It is not stated whether interviewers were aware of a child's allocation. Post-intervention data collected during six weeks following. No mention of a consent procedure either for parents/carers or children.</p> <p>A total of 167 (81%) children assigned provided post-assessment data, but data were</p>

analysed for only 105 treated and assessed children (51% of those assigned) (Paardekooper, 2002, p 108.)

Attrition was equal between the three comparison groups. Generally children with more behaviour complaints and children in more difficult circumstances dropped out of the programme, while children with more internalised problems were more likely to remain.

Method of analysis: Chi-squared tests for proportions in each group above clinical level for CBCL in all three groups pre- and post-test; T-tests for within-group differences; ANOVAs to compare effect scores between the three groups; hierarchical regression analyses predicting outcomes from pre-scores of outcomes and mediator variables. Data analysis was actually carried out on 105 children. A separate analysis was done for a subgroup of severely traumatised and depressed children.

Wolff *et al.* (1995a), Eritrea

Study type Non-researcher manipulated evaluation; controlled trial (non-randomised)

Aim A comparison between the socio-emotional wellbeing and cognitive development of a group of 74 orphan Eritrean children in an orphanage and 74 refugee children living with one or both parents in a nearby camp, in order to test retrospectively the effect of child-centred group care regimes in the orphanage.

What was studied?

Sample: Children were chosen to reflect the age distribution of the orphanage, that is children aged 4 to 7. To control for possible differences in the social conditions in the various dormitories, children were chosen in alphabetical order from eight different dormitories until a sample of about five girls and boys from each had been identified. From this group, equal numbers of boys and girls were selected for the study. The total experimental sample was 74. Subsequently, the control sample of 74 refugee children was selected on a case matched basis.

Sampling: One group of children (500) lived in the orphanage; another group (650) lived with family in a nearby refugee camp. The study groups were selected from these two wider groups, matched for age and sex. The selection of orphanage and refugee camp was pragmatic. Children had generally arrived at the orphanage when they were 3–4 years old. All refugees had arrived before their second birthday, while 70% had been born in the camp or arrived before the age of three months (Wolff *et al.*, 1996, pp 636 ff).

Intervention: Due to wartime conditions, the orphanage and refugee camp were located in the least accessible and deepest canyons of Northern Eritrea, with some of the harshest living conditions in all Eritrea. There was a constant threat of air raids, shortage of trained personnel and lack of material resources. The orphanage had nevertheless been reorganised and staff retrained in order to provide a child-centred environment. (The reorganisation of the orphanage is described in detail in a linked paper.) Children in the refugee camp had similar experiences of flight from their homes and war strife, lived under the same conditions of food and water shortages, war threats and lack of adequate housing, sanitary and recreational facilities as the orphans, but lived with at least one parent in their own homes. However, they were free to play unsupervised around the camp

Measurement: The children's behaviour: their socio-emotional state and cognitive development were investigated two years after this reorganisation had been carried out. (In a previous linked study, children's behaviour in the orphanage before and after the change had been measured.) Eight tests were used in total on the two matched groups: for socio-emotional development, intelligence, language and physical status.

Measures: (a) Clinical tests: (i) medical records of history of debilitating illnesses, nutritional status, etc.; (ii) extended paediatric examination for minor neurological signs; (iii) Halstead-Reitan version of Grooved Peg Board for children. (b) Psychological tests: (i) behavioural screening questionnaires for pre-school children (25-item questionnaire sampling six major adaptive domains, including eating, sleeping, psychosomatic complaints, quality of social interaction and language development); (ii) the Leiter International Intelligence Scale developed for cross-cultural comparisons; (iii) Raven

Progressive Matrices; (iv) token test for receptive language; (v) language pragmatics, open-ended dialogues analysed for language content; and (vi) expressive language based on line drawings. No baseline measures were obtained for either of the two groups.

How was it studied?

Use of pre-existing differences to create comparison groups.

Data were collected retrospectively, after the children had experienced the two environments under study. (There was no baseline stage.) Those collecting measures were fully aware of each child's experience of either the orphanage or the refugee camp environment. There is no mention of use of consent procedures.

Culture-fair standardised psychological tests were used alongside ones modified for use with children growing up in rural Eritrea.

ANOVAs were carried out on variations between group scores on the battery of tests employed. The expressive language test scores were discarded.

Researchers admit that results may have been affected by the confounding variable of greater experience of schooling, notably kindergarten experience, among the orphanage group.

Appendix 4.3: Synthesis; data-extraction summary tables; weight of evidence

Authors and country	Authors' report of findings	Weight of evidence	Reviewers' report of study findings
Dybdahl (2001), Bosnia-Herzegovina	Abstract states 'Results showed that ... the intervention program had a positive effect on mothers' mental health, children's weight gain, and several measures of children's psychosocial functioning and mental health, whereas there was no difference between the two groups on other measures' (p 1214).	<p>A: Soundness of study within design: how well was it designed and carried out? <i>High</i> Taking ethical approach, accounting for cultural appropriateness and well reported. Satisfactory explanation for sampling and allocation to groups. No sampling frame, but all who met inclusion criteria participated. Appropriate strategies used to control for bias from confounding variables. Standard measures used to address validity and reliability in data analysis.</p> <p>B: Ways in which this type of study helps to answer review question <i>High</i> RCT design</p> <p>C: How close is the topic focus to review question addressed? <i>High</i> The topic focus, a psychosocial intervention with children under eight, is very close to the review question. Moreover, the array of cognitive and socio-emotional data collected to explore the impact of the intervention on the children and their mothers, coupled with the randomised controlled research design, yield findings which are highly relevant to the review question. The author presents a strong case that the trauma exposure in the study participants was so severe that the results are generalisable to the displaced Bosnian population.</p> <p>D: Overall <i>High</i></p>	<p>The reviewers concur with the author's conclusion, but note that, since the impact on children was achieved through the mothers, this study's findings cannot be generalised to orphans or unaccompanied minors.</p> <p>Even though only a few findings reached statistical significance, they can nevertheless be trusted in terms of justifying the study's conclusions and answering the study question, and hence contributing to answering the review question.</p>

Authors and country	Authors' report of findings	Weight of evidence	Reviewers' report of study findings
Paardekooper (2002), Ethiopia	'A simple 8-week psychosocial group programme [Programme B: contextual programme] did make a difference: it did not only result in significant progress compared with the pre-assessment, but also in comparison with a control group. The psychodynamic programme [A], which only differed in content from the successful contextual programme in four out of eight sessions, did not perform better than the control group' (pp 169–170).	<p>A: Soundness of study within design: how well was it designed and carried out? <i>High</i></p> <p>Use of reputable pre-and post psychological tests, and sound statistical analysis of impact data from two types of intervention, as compared with a control group</p> <p>B: Ways in which this type of study helps to answer review question <i>High</i></p> <p>RCT design</p> <p>C: How close is the topic focus to review question addressed? <i>Medium</i></p> <p>The topic focus of the comparative effectiveness of different forms of psychosocial interventions is very close indeed to the review question.</p> <p>However:</p> <p>(1) The study involves children aged under eight but, in the main, studies the impact of these programmes on children aged older than eight – so what is the relevance to children aged much younger? The author was asked by email about any breakdown of her data by age and responded, 'My thesis did not provide an age-breakdown, I tried out whether statistically there were any differences between age groups but I could not find any significant differences in effects'.</p> <p>(2) The study involves some children (57 out of the 207) who were born in Ethiopia and not in Sudan so may not have had direct experience of conflict (their parents would have been refugees from Sudan).</p> <p>D: Overall <i>Medium-high</i></p>	The design and its implementation and the significant positive results provide robust evidence of the effectiveness of the 'contextual' psychosocial intervention in this study. Maybe there is not enough evidence to warrant extrapolating from these results to psychosocial interventions with other groups of young children affected by armed conflict (p 170), but they are trustworthy and warrant further research.

Authors and country	Authors' report of findings	Weight of evidence	Reviewers' report of study findings
Wolff <i>et al.</i> (1995a), Eritrea	<p>Given the magnitude of the environmental stresses experienced by the orphans, the findings of great interest were (1) that the differences between the orphans and refugee children were less than anticipated, and (2) not all the differences were in the anticipated direction.</p> <p>Orphans exhibited more behavioural symptoms than refugee children. There was a main effect by group and a group age interaction but no main effect by age. Most behavioural symptoms concerned sleep disturbances and aggression. There was no difference between boys and girls.</p> <p>Orphans performed significantly better on three of the cognitive tests than refugee children.</p>	<p>A: Soundness of study within design: how well was it designed and carried out? <i>Medium</i></p> <p>The conclusions clearly follow on from the findings and are transparently presented and critically discussed. Authors provide a detailed account of the context. Researchers admit differences between the orphans and refugee children were less than anticipated.</p> <p>B: Ways in which this type of study helps to answer review question <i>Medium</i></p> <p>Researcher-manipulated, naturally occurring evaluation, but no proper baseline data. This study was likely to have a selection bias acting on the analysis of the two groups, by selecting from pre-existing groups. While the groups were matched for age and sex, equivalence is unknown for other key, potentially mediating variables such as physical status and language.</p> <p>C: How close is the topic focus to review question addressed? <i>High</i></p> <p>The topic focus of this analysis of the impact of a relatively simple psychosocial intervention on cognitive and psychosocial functioning of orphans in a situation of armed conflict, as compared with a control group of refugee children, is close to the review question, although it obviously relates to a particular category of children.</p> <p>D: Overall <i>Medium</i></p>	<p>The absence of baseline measures makes the comparison with refugee children spurious and the reviewers believe that the study would best be evaluated as a single group, post-test only study. There is also the potentially confounding effect of greater orphan kindergarten experience.</p> <p>The reorganisation of an orphanage along child-centred lines, where children have some autonomy, may mitigate the impact of war and trauma on young children.</p>