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Author(s): Y H Carter, M J Bannon, C Limbert, A Docherty, J Barlow

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ORIGINAL ARTICLE

Improving child protection: a systematic review of training and procedural interventions

Y H Carter, M J Bannon, C Limbert, A Docherty, J Barlow

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See end of article for authors' affiliations

Correspondence to: Prof. Y H Carter, Warwick Medical School, University of Warwick, Coventry CV4 7AL, UK

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Aim: To synthesise published evidence regarding the effectiveness of training and procedural interventions aimed at improving the identification and management of child abuse and neglect by health professionals.
Methods: Systematic review for the period 1994 to 2005 of studies that evaluated child protection training and procedural interventions. Main outcome measures were learning achievement, attitudinal change, and clinical behaviour.
Results: Seven papers that examined the effectiveness of procedural interventions and 15 papers that evaluated training programmes met the inclusion criteria. Critical appraisal showed that evaluation of interventions was on the whole poor. It was found that certain procedural interventions (such as the use of checklists and structured forms) can result in improved recording of important clinical information and may also alert clinical staff to the possibility of abuse. While a variety of innovative training programmes were identified, there was an absence of rigorous evaluation of their impact. However a small number of one-group pre- and post-studies suggest improvements in a range of attitudes necessary for successful engagement in the child protection process.
Conclusion: Current evidence supports the use of procedural changes that improve the documentation of suspected child maltreatment and that enhance professional awareness. The lack of an evidence based approach to the implementation of child protection training may restrict the ability of all health professionals to fulfil their role in the child protection process. Formal evaluation of a variety of models for the delivery of this training is urgently needed with subsequent dissemination of results that highlight those found to be most effective.

Child abuse and neglect represents a significant international public health problem with high prevalence and unacceptable levels of morbidity and mortality.[1] Many countries have implemented comprehensive policies, procedures, and legislation, collectively known as the child protection process, with the aim of safeguarding children from the threat of maltreatment. Recent public inquiries in the UK into instances of fatal child abuse have highlighted repeated failures of the child protection process. In particular, the Laming Report (2003),[2] which followed the inquiry into the death of Victoria Climbié concluded that there was a need for both more effective engagement by professionals in the child protection process as well as improved child protection training for all relevant professionals. Successful implementation of the child protection process requires a combination of coordinated strategies and interventions by clinical departments and child protection agencies. The aim of this study was to critically appraise published evidence regarding the effectiveness of two types of intervention considered to be essential for the protection of children: procedural interventions and child protection training. Procedural interventions are those that have been put in place in order to guide clinicians in the identification and subsequent management of child abuse. While training is considered to represent a core component of the child protection process,[3] little is currently known of its overall effect in terms of positively influencing clinician behaviour.

METHODS

The following databases were searched for the period January 1994 to March 2005 (inclusive): Medline, ERIC, PsycINFO, IBSS, CINHAL, PubMed, NSPCC Database, Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE), The Cochrane Central Register of Controlled Trials (CCTR), ASSIA (Applied Social Science Index and Abstracts), and the worldwide web. Key search terms included; child, protection, abuse, neglect, maltreatment, non-accidental injury, training, and intervention. Full details of the search strategy are available from the authors. Two reviewers (CL, AD) independently screened the titles and abstracts extracted by the searches for their eligibility for inclusion and critically appraised all included studies. Where reviewers' conclusions differed, agreement was reached by consensus involving an advisory group of four child protection experts. The inclusion criteria specified that studies would comprise primary evaluations (in the English language) of the effects of procedural or training interventions on participation by health professionals in child protection work, using measures of learning achievement (knowledge, recognition), attitudinal change (e.g. confidence) or behaviour (documentation, referral patterns).

RESULTS

Study selection and characteristics

Of a total of 6883 studies identified by the search, 22 fulfilled the inclusion criteria and included seven procedural[4–10] and 15 training interventions[11–25] (table 1). (Full details of studies included along with results of critical appraisal undertaken for both interventions are available from the authors.) The procedural interventions involved the introduction of structured forms,[4 8] flowcharts,[6] and reminder checklists[5 7 9] to clinical departments in secondary care. The aim was to improve documentation of historical details and clinical findings in case notes and to encourage clinical staff to consider the possibility of child abuse in childhood injury. One of these studies combined the use of a checklist with staff training and regular feedback.[10]

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Table 1 Description of procedural and training interventions

	Procedural intervention (n = 7)	Training intervention (n = 15)
Country	UK = 4 USA = 3	UK = 6 USA = 6 Other = 3
Clinical setting	A&E dept = 6 Paediatric dept = 1	Community/primary care = 5 Secondary care = 4 Mixed = 6
Training audience	Medical = 4 Medical & nursing = 3	Medical = 3 Nursing = 2 Multidisciplinary = 7 Other = 3*
Intervention	Checklist = 5 Structured form = 2	Didactic = 7 Interactive = 6 Computer assisted = 2

*Dentists = 1; medical students = 2; paramedical staff = 1.

The majority of the training programmes were directed towards a multi-professional audience, often in a community/primary care setting. Eight papers described conventional didactic sessions varying in length from a few hours to more intensive programmes delivered over the course of several days.[11–18] Other studies undertook interactive training approaches, including: practice based sessions in primary care teams where participants identified key learning points from listening to an audiotape of an adult survivor of childhood abuse;[19] a workshop based on adult learning theory and action research methodologies;[20] the use of focus groups to identify course content followed by a continuing education programme;[21] and provision of written feedback for doctors following assessment of documentation of child sex abuse in case notes.[22] Computer assisted learning was utilised by two studies.[23 24] Finally, child protection experts in Kentucky used videoconferencing in order to provide real-time consultations with clinicians who were assessing children for signs of sexual abuse.[25]

Critical appraisal of included papers (table 2)

Comparison of the procedural interventions was facilitated by similarities in design. All seven studies utilised pre- and post-design had a reasonable sample size and objective evaluation of the findings. However, none made use of a control group and only one attempted long term follow up of its impact.[8] Critical appraisal showed an absence of a rigorous, evidence based approach to evaluation of training child protection interventions. Many studies included evaluation of multiple and confounding interventions in single study design. Only three studies of training interventions used a control group.[14 16 22] While seven papers described pre- and post-one-group designs,[14–16 20–22 25] just one[14] of these evaluated whether the training given increased the detection of abuse. Only four studies used objective outcome measure of impact as most relied on self-reported increase in knowledge or confidence.[14 16 22 25] Furthermore the majority of participants were self-selected—that is, they volunteered or had previously requested the training intervention. Four studies undertook follow up beyond the immediate post-training period.[14 16 22 25]

Outcomes (table 3)

Six of the procedural interventions showed improvements in the recording of a range of important information relevant to suspected instances of child abuse or neglect.[4–7 9 10] Of these, one study found that following the introduction of a checklist highlighting factors associated with abusive burns, there was an increase in percentage of burns victims who were reported to social services; however, there was a non-significant increase of cases verified as representing abuse.[7] Another study could show only partial improvements in documentation following the use of a structured form and was limited as a result of relatively small numbers of child abuse cases.[8] Several procedural interventions in addition showed an apparent increase in vigilance by clinical staff for the possibility of abuse or neglect.[4 5 10]

Four training interventions attempted an objective evaluation of impact. Of three studies that used tested knowledge before and after training,[16 21 22] one intervention[16] showed a conclusive improvement. One study found increases in the detection of child abuse following a 16–20 hour programme of multi-professional training backed up by support from experts in addition to the introduction of a form designed to enable the referral of suspected cases.[14] The combination of training and procedural changes, however, precludes the possibility of assessing the independent influence of the two components. Eight training interventions showed objective improvements in outcome which included self-reported increase in knowledge,[15 18 20 23] confidence,[18 20] or satisfaction with the intervention itself.[13 19 24 25]

Table 2 Quality of design of studies selected

	Procedural intervention (n = 7)	Training intervention (n = 15)
Pre- and post-intervention design	7	7
Use of control group	0	3
Sample size >100	7	8
Long term follow up*	1	4
Clear/comprehensive report of findings	7	11
Objective evaluation of findings	7	4

*Other than immediate post-intervention evaluation.

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Table 3 Demonstrated outcomes after interventions

Outcomes	Studies
Procedural intervention outcomes	
Improved documentation or recording of suspected abuse or neglect in clinical case notes	Bar-on and Zanga,[4] Benger and McCabe,[5] Benger and Pearce,[6] Clark *et al*,[7] Polnay and Curnock,[9] Sidebotham and Pearce[10]
Increased vigilance:	
Staff more likely to consider possibility of abuse	Benger and McCabe[5]
More checks made with social services	Bar-on and Zanga,[4] Benger and McCabe,[5] Sidebotham and Pearce[10]
Compatibility of injuries with history considered by clinical staff	Benger and McCabe[5]
Improved assessment for child abuse risk factors	Sidebotham and Pearce[10]
Training intervention outcomes	
Objective	
Improvement in tested knowledge	Palusci and McHugh[16]
Increase in detection of abuse or neglect	Cerezo and Pons-Salvador[14]
Subjective	
Self-reported improvement in confidence	Henry *et al*,[18] MacCleod *et al*[20]
Self-reported increase in knowledge and awareness	Henry *et al*,[18] MacCleod *et al*,[20] Myers,[15] Welbury *et al*[23]
Satisfaction with training	Buckley,[13] Burton *et al*,[25] Dorsey *et al*,[24] Polnay and Blair[19]

DISCUSSION

Procedural interventions

The benefits of such procedural interventions as structured forms and checklists have been demonstrated. They have the advantage of simplicity of design and ease of implementation. Furthermore, they are amenable to audit and assessment of impact. Their use should be extended to settings other than front-line clinical departments in hospitals such as community clinics and primary care. It follows, however, that interventions must be based on evidence based practice, an area that until now has been rather overlooked in child protection work. The feasibility of designing and implementing nationally agreed checklists and flow charts based on currently available sources of guidance (such as *What to do if you're worried a child is being abused*[26]) should also be considered. There is some degree of evidence of the added value of combining procedural interventions with training. Further studies of the value of structured forms and checklists should incorporate the use of control groups as well as long term assessment of outcome

Training interventions

The lack of an evidence based approach to the design, implementation, and critical evaluation of child protection training is disappointing. An unquantifiable amount of effort and resource is devoted to raising awareness of the principles of safeguarding children so that professionals may act promptly and decisively when they encounter a child in need of protection. While many of the studies described interesting programmes of training, some of which made use of adult learning theory and information technology, most were limited because of poor design and lack of objective evaluation. There is therefore a need for studies that will rigorously address these issues. Future studies should attempt to evaluate a variety of training methods (conventional didactic, interactive, computer assisted) in order to define best practice. Careful consideration should be given to evaluation of outcomes in both immediate and longer term. A combination of outcome measures should be defined. In addition to self-reported changes in attitudes and confidence, objective evaluation of knowledge and clinical behaviour is also needed. The challenge of assessing the impact of interventions in medical education due to multiple and confounding variables is acknowledged. For this reason the concept of ''best available medical education'' (BEME) has evolved.[27] It represents a pragmatic way forward in an area where double blinded, random control studies are not practical. Collaboration between medical educationalists and child protection experts would allow some of the principles of BEME to be applied to this area.

The way forward

Participation in the child protection process is challenging.[28] It follows that all professionals who have contact with children and their families should be well supported by sound procedural guidance and properly designed models of training. The recent launch of Safeguarding Children Recognition and Response, a standard course of child protection training that will be delivered to all paediatricians in training, is welcomed.[29] However, in addition to initiatives such as these, there is also a need to evaluate the impact of improved procedural interventions and training on a set of agreed long term outcomes that might include such parameters as referral rates to child protection agencies and numbers of children known to have been abused.

What is already known on this topic

- Numerous public inquiries in the UK have highlighted failures in the child protection system and similar concerns have been expressed in other countries

What this study adds

- Simple procedural interventions such as the use of checklists and flow diagrams are generally associated with meaningful improvements in the recording of child protection issues and raising awareness among health professionals; however, little rigorous evaluation of child protection training has taken place so far
- There is some evidence to suggest that certain types of child protection training can positively influence professional knowledge, attitudes, and behaviour in relation to child protection issues. However, further work is needed to determine the most effective strategies for ensuring that health professionals fulfil their responsibilities with respect to safeguarding children

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Authors' affiliations

Y H Carter, J Barlow, Warwick Medical School, University of Warwick, Coventry, UK
M J Bannon, Oxford Department of Postgraduate Medical and Dental Education, Headington, Oxford, UK
C Limbert, University of Wales, Cardiff, UK
A Docherty, Redditch and Bromsgrove Primary Care Trust, Redditch, UK

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Early inhaled steroid and the course of wheezing

Since many children with asthma first begin to wheeze in the first few years of life it is tempting to wonder whether inhaled steroid given at that time might influence the natural history of wheezing. Two recent studies indicate that it does not.

A multicentre US trial (Theresa W Guilbert and colleagues. *New England Journal of Medicine* 2006;**354**:1985–97) included 285 2-or 3-year-old children at high risk of asthma because of their family or personal histories. Randomisation was to inhaled fluticasone, 88 μg twice daily, or placebo, regularly for 2 years. In the third year (the observation year) there were no significant differences between the two groups in clinical symptoms or lung function. During the treatment period, however, the fluticasone group did significantly better. There was a temporary slowing of growth during regular administration of inhaled fluticasone.

In Copenhagen (Hans Bigaard and colleagues. Ibid: 1998–2005; see also Editorial, ibid: 2058–60) 411 one month old infants whose mothers had asthma were randomised to take inhaled budesonide or placebo for 2 weeks when any episode of wheezing had lasted for 3 days. The average age on starting treatment was 10 months. Over the 3 years of the trial there was no difference between the groups either in control of symptoms or in progression to persistent wheezing.

Neither regular nor intermittent inhaled steroid given in the early years of life changed the natural history of wheezing.

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