

Performance of screening tests for child physical abuse in accident and emergency departments

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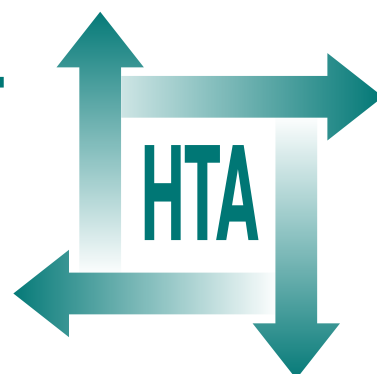
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Executive summary

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Executive summary

Background

Checklists and protocols are used in UK accident and emergency (A&E) departments to screen for physical abuse but information is lacking on the performance of these tests.

Objectives

To determine the effectiveness of screening tests for physical abuse in injured children attending A&E departments in the UK.

Methods

We used a simple decision-analytic model to integrate the findings of nine systematic reviews. We reviewed the incidence of physical abuse, the characteristics of abused and non-abused children attending A&E, and the performance of screening tests for physical abuse that could be universally applied to injured children in A&E. Strategies involved the standard clinical screening assessment combined with a checklist, a community liaison nurse to scrutinise A&E attendance records of all children and discuss findings at a multidisciplinary team meeting, and protocols requiring paediatric assessment of specific groups of children defined by age, type of injury, repeat attendances for injury, child protection registration and whether allocated to social services.

Results

We examined 7383 articles, retrieved 448 papers and included 66 studies, including 11 unpublished studies, in the nine systematic reviews used to inform the parameters for the model. Overall the quality of the studies was poor.

We found consistent evidence that physical abuse affects about 1 in 11 children in the UK each year. The proportion of abused children who require medical attention is small but poorly quantified. We estimated that approximately 1% of all child attendances for injury at A&E are for physical

abuse, amounting to just under 1 in 50 of all physical abuse episodes in the community.

We found clear evidence that physically abused children attending A&E are missed but the performance of the clinical screening assessment was poorly quantified. We found no evidence that any test was highly predictive of physical abuse. We found no clear evidence that repeated A&E attendance or type of injury was predictive of physical abuse. Among severely injured children admitted to hospital, those aged under 1 year were more likely to be abused than older children. Evidence that young age was a risk factor for abuse among all injured children attending A&E was inconsistent. There was weak evidence that a community liaison nurse improved the performance of the screening assessment in A&E. We estimated that a strategy involving the standard clinical assessment screen combined with a community liaison nurse would result in referral to social services of about half the physically abused children attending A&E. Given the poor quality of the data, this result is highly uncertain.

The addition of screening protocols to the clinical screening assessment offered only marginal benefits and the number of additional false-positive referrals exceeded the number of additional abused children detected. The benefits of protocols declined as the accuracy of the clinical screening assessment improved. The most effective protocol involved referral of all injured infants and all injured children who were social work active.

Implications for practice

Detection and investigation of physical abuse in A&E

A small minority of physically abused children present to A&E, and some, possibly many, abused and injured children may not receive the medical care that they need. Any efforts to improve detection of physical abuse in A&E should not discourage presentation of injured children for medical attention.

Our findings suggest that improving the clinical screening assessment, based on a clinical synthesis of findings in the history and examination, is likely to be more useful than protocols, except where the paediatric expertise of assessors is minimal. All of the strategies examined involved referral of at least 5% of injured children to paediatricians, which may exceed existing capacity. Lower rates of referral to paediatricians are likely to substantially diminish the proportion of abused children detected.

Improvements in the performance of the clinical assessment depend on training, feedback and experience, and might be enhanced by paediatric or other child protection expertise on site. Whether policy should focus on input by paediatricians or community liaison nurses, or both, is unclear.

Further improvements in the overall detection of physical abuse by A&E might be achievable by taking action for the large number of abused children referred to paediatricians for suspected abuse who fail to reach the high level of certainty of abuse required to justify referral to social services. Such children fail to have the suspicion of abuse put on record for access by other professionals and, most importantly, fail to access supportive interventions. Lowering the threshold for action for such children could result in referral to social services to address their social needs (i.e. as a 'child in need' referral) rather than referral solely on the grounds of abuse. Alternatively, the paediatrician could refer the child and family directly to supportive services in the community (e.g. Sure Start, parenting training). Completion of the Common Assessment Framework (CAF) form will be used as a vehicle to record concerns about additional needs for information sharing, but the practicalities of clinicians in A&E filling in an eight-page form need to be addressed. Finally, standardised recording and coding of the clinical diagnosis or suspicion of abuse or neglect, whether or not children are referred to social services, would greatly enhance the potential for identifying children at risk by allowing clinicians to establish a cumulative record of abuse or neglect.

We found a lack of feedback about the outcome of suspected physical abuse within the hospital and from social services to A&E staff. Routinely compiled electronic records could provide invaluable feedback to staff at all levels, allow audits of the rate of referral for suspected abuse, and enhance multidisciplinary working. In deciding whether to make a referral or offer other interventions, many professionals we interviewed

expressed the need for telephone access to experienced social services advice that is not given under pressure to minimise referrals to an overloaded service. Consideration could be given to making such advice centrally available.

Staff in A&E should be able to access information on whether a child is social work active from Contact Point when this is universally available in mid 2009.

Wider burden and detection of abuse

Physical abuse usually goes undetected. We estimated that a small minority (about 1 in 31) of children subjected to severe parental violence each year undergo an initial assessment by social services for physical abuse. Similar findings have been reported by others.

Most physically abused children referred to social services were reported by neighbours, police, schools and community health workers. Efforts to improve detection of abuse may be most effective if focused on the range of agencies involved with children. A lack of referrals by GPs should be a major policy concern. Strategies to reduce the public's tolerance of violence to children could be effective for both detection and prevention.

Child protection registrations focus on infants and pre-school children whereas the majority of physical abuse occurs in school-age children. The perception among health-care staff that physical abuse is predominantly a problem of the pre-school years should be corrected.

Research recommendations

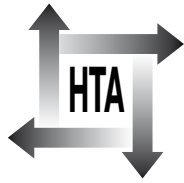
It was striking how little high-quality research had been generated in the UK compared with North America. Part of the reason may be the lack of electronic databases that allow linkage between social services and health databases. With the current enormous investment in data systems in both arenas in the UK, there is scope for large-scale studies.

1. Well-designed, large-scale studies are required to evaluate the effectiveness of assessments that are currently used in A&E for identifying abused children and initiating appropriate interventions. In particular, the role and effectiveness of the community liaison nurse

- warrants further research. Investigation is also required into which information obtained from other sources in the community is most effective for informing decisions about management of possible abuse or neglect.
2. Studies are needed to evaluate the feasibility, acceptability and effectiveness of new tests such as direct questioning of school-age children about injuries, assessment of bruising on the head and face, timing of attendance at A&E, assessment of information from the cumulative record of health-care use, and assessment of information from agencies outside health.
 3. Monitoring is needed of the incidence of abuse identified by professionals working with children and how this is changing over time. National data on reasons for child protection registration should be extended to referrals to social services and analysed alongside studies of abuse identified by professionals to determine how much is referred.
 4. Research is required to investigate the reasons for referral to social services and for completion of the CAF form, subsequent actions and re-referrals. Such a study would be important to gain a more accurate picture of the extent of abuse dealt with by social services, much of which may be labelled under non-abuse categories, or dealt with by information sharing via CAFs without involvement of social services.
 5. Periodic local hospital A&E audits of patients with suspected abuse or neglect, actions taken within hospital, and contacts made with other agencies should be encouraged.
 6. A working party should be established to determine the research priorities across health, social services, education and police. With the introduction of electronic records in health and social services there will be considerable scope for high-quality large-scale studies based on a combination of routine records and primary data collection. The working group should include expertise in population research and epidemiology, the different service areas and policy priorities and should build on and complement the existing research agenda developed by the Department for Children, Schools and Families. For too long, interventions in child abuse have followed investigations of high-profile cases. A population-based approach is needed to generate high-quality research to underpin the effectiveness of the extremely costly services that exist to address this serious and common condition.

Publication

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The Health Technology Assessment (HTA) Programme, part of the National Institute for Health Research (NIHR), was set up in 1993. It produces high-quality research information on the effectiveness, costs and broader impact of health technologies for those who use, manage and provide care in the NHS. 'Health technologies' are broadly defined as all interventions used to promote health, prevent and treat disease, and improve rehabilitation and long-term care.

The research findings from the HTA Programme directly influence decision-making bodies such as the National Institute for Health and Clinical Excellence (NICE) and the National Screening Committee (NSC). HTA findings also help to improve the quality of clinical practice in the NHS indirectly in that they form a key component of the 'National Knowledge Service'.

The HTA Programme is needs led in that it fills gaps in the evidence needed by the NHS. There are three routes to the start of projects.

First is the commissioned route. Suggestions for research are actively sought from people working in the NHS, from the public and consumer groups and from professional bodies such as royal colleges and NHS trusts. These suggestions are carefully prioritised by panels of independent experts (including NHS service users). The HTA Programme then commissions the research by competitive tender.

Second, the HTA Programme provides grants for clinical trials for researchers who identify research questions. These are assessed for importance to patients and the NHS, and scientific rigour.

Third, through its Technology Assessment Report (TAR) call-off contract, the HTA Programme commissions bespoke reports, principally for NICE, but also for other policy-makers. TARs bring together evidence on the value of specific technologies.

Some HTA research projects, including TARs, may take only months, others need several years. They can cost from as little as £40,000 to over £1 million, and may involve synthesising existing evidence, undertaking a trial, or other research collecting new data to answer a research problem.

The final reports from HTA projects are peer reviewed by a number of independent expert referees before publication in the widely read journal series *Health Technology Assessment*.

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Reports are published in the HTA journal series if (1) they have resulted from work for the HTA Programme, and (2) they are of a sufficiently high scientific quality as assessed by the referees and editors.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search, appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

The research reported in this issue of the journal was commissioned by the HTA Programme as project number 03/37/06. The contractual start date was in January 2005. The draft report began editorial review in February 2007 and was accepted for publication in March 2008. As the funder, by devising a commissioning brief, the HTA Programme specified the research question and study design. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the referees for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

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