Does home visiting prevent childhood injury: a systematic review of randomised controlled trials

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Authors' objectives
To quantify the effectiveness of home-visiting programmes in the prevention of child injury and child abuse.

Searching
MEDLINE was searched from January 1966 to April 1995, and EMBASE from January 1975 to April 1995, using the following key terms: 'social support', 'family support', 'home and health visitors', 'home and health visitations', 'child abuse' and 'child neglect'. The Social Sciences Citation Index was also searched. Reference lists of all relevant articles and textbooks were examined, and the Journal of Child Abuse and Neglect was handsearched from 1977 to 1995. Additional published or unpublished material was obtained by contacting authors of identified papers and experts in the field, and by searching relevant conference proceedings.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) of postnatal home visiting, including at least one outcome of child injury (intentional or unintentional), were included.

Specific interventions included in the review
One or more postnatal home visits.

Participants included in the review
Parents of disadvantaged children were included.

Outcomes assessed in the review
The outcomes were occurrence of childhood injury and occurrence of suspected abuse, reported abuse, or out-of-home placement for child abuse.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The trials were assessed using a modification of Prendiville's criteria, evaluating the studies according to control of confounding at entry, control of selection bias, and control of information bias in outcome assessment. Scores of 1 to 3 were assigned for each of these criteria. The quality of the trials was assessed independently by two reviewers, and agreement on methodological criteria was evaluated with weighted Kappa. Each point of disagreement was settled by collaborative review.

Data extraction
Two independent assessors extracted the data, and any disagreements were settled by discussion.

Methods of synthesis
How were the studies combined?
The odds ratios (ORs) were calculated directly for studies in which the injury was expressed in binary form, with the
variance estimated by Wolf’s method (see Other Publications of Related Interest no.1). For studies in which injury occurrence was estimated as an incidence density, the OR was estimated on the assumption of a Poisson distribution.

Pooled ORs were calculated as an inverse weighted average of the study-specific ORs.

Studies were grouped according to outcomes assessed, e.g. occurrence of childhood injury, occurrence of suspected abuse, reported abuse or out-of-home placement for abuse.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Eleven RCTs with 3,433 participants, and a follow-up of 0.8 to 4 years, were included.

The effect of home visiting on the occurrence of childhood injury (8 trials): 6 out of 8 trials reported a lower incidence of injury in the group that received home visits. Pooled OR for injury for the 8 trials was 0.74 (95% confidence interval, CI: 0.60, 0.92).

Four studies examined the effect of home visiting on injury occurrence in the first year of life only, OR 0.98 (95% CI: 0.62, 1.53).

The effect of home visiting on the occurrence of suspected abuse, reported abuse, or out-of-home placement for abuse (9 trials): substantial heterogeneity of the ORs was found across the studies. The potential for bias in the outcome reporting was considered to be a serious threat to validity in all 9 studies, and pooled effect estimates were therefore, not calculated.

Authors’ conclusions
Home-visiting programmes have the potential to significantly reduce the rates of childhood injury. The problem of differential surveillance for child abuse between intervention and control groups precludes the use of reported abuse as a valid outcome measure in controlled trials of home visiting.

The relative effectiveness of professional versus non-professional home visits remains unanswered.

CRD commentary
This is a thorough systematic review, although the study population is not defined clearly. The methodological rigour of each of the studies was assessed, but the authors failed to reconsider the quality of the studies when drawing conclusions for the review.

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