A systematic review of the effectiveness of peer/paraprofessional 1:1 interventions targeted towards mothers (parents) of 0-6 year old children in promoting positive maternal (parental) and/or child health/developmental outcomes


Authors' objectives
To assess the evidence for the effectiveness of peer and paraprofessional one-to-one (1:1) interventions targeted towards mothers (parents) of 0 to 6 year old children in promoting positive maternal (parental) and/or child health and developmental outcomes.

Searching
Eleven databases were searched: MEDLINE from 1966 to December 1998; HealthSTAR from 1975 to 1998; CINAHL from 1982 to 1998; EMBASE from 1980 to December 1998; ERIC from 1982 to September 1998; PsycINFO from 1967 to September 1998; the Cochrane Library; Dissertation Abstracts International; Sociofile; the Science Citation Index; and the Effective Public Health Practice Database. The search terms were listed in an appendix to the document. Eleven key journals were handsearched from January 1993 to October 1998: American Journal of Epidemiology; American Journal of Health Promotion; American Journal of Public Health; Canadian Journal of Public Health; Child Development; Health Education and Behaviour; Health Promotion International; Journal of Behavioural Pediatrics; Maternal Child Nursing; Nursing Research; and Public Health Nursing. In addition, unpublished studies were sought from key Canadian and American agencies and organisations (listed in the document), and the reference lists from all relevant articles, review papers and background papers were searched for papers dating back to 1988.

Study selection
Study designs of evaluations included in the review
Prospective studies, in which the design included a comparison group or an established qualitative methodology, were eligible.

Specific interventions included in the review
Any primary study that included an intervention, which was delivered on a 1:1 basis by a non-professional to support parents of children aged 0 to 6 years in promoting child health and/or development, was included. A non-professional was defined as a peer or paraprofessional, i.e. they had short-term training. Studies with interventions commencing in the prenatal period were also included. The interventions included home visits, telephone support, programme delivery focusing on issues relating to failure to thrive, and multi-component interventions delivered in conjunction with other interventions.

The review excluded studies in which the 1:1 intervention was provided only by professionals such as nurses, social workers, nutritionists, dieticians, physicians, physiotherapists, teachers, early childhood educators and child development specialists. Studies from the UK and from Norway were excluded if health visitors were the only intervenors.

Participants included in the review
Studies focusing on mothers (parents) of children aged 0 to 6 years were included. Studies that included older children were only included if the outcomes for children aged 0 to 6 years were reported separately.

Outcomes assessed in the review
Studies that provided information on outcomes for the parent and/or the health or development of the child, or cost. Studies that included changes in health care utilisation, levels of child abuse and neglect, child behaviour, child development, weight gain in children, parent child interaction and maternal psychosocial health status were eligible for inclusion.
How were decisions on the relevance of primary studies made?
Studies had to meet all five relevance criteria to be included in the review. This assessment was conducted using a tool designed for the project, details of which were provided in the document.

Two reviewers independently evaluated all citations for eligibility, with any disagreements resolved by discussion of the retrieved article. Two bilingual reviewers independently assessed three French articles, while the review's group leader and another group member independently assessed a qualitative article.

Assessment of study quality
Qualitative and quantitative papers were assessed using a tool designed for methodological quality, which was developed by the Effective Public Health Practice Project; details of the tool were provided in the document. This tool assessed selection bias, study design, confounders, blinding, data collection methods, and the percentage of withdrawals and drop-outs. Each component was rated as strong, moderate or weak, using an algorithm. Pairs of reviewers independently assessed all the relevant studies. One reviewer assessed all the studies for methodological quality, with the exception of the papers written in French and the qualitative paper. The results of the assessments were discussed, and any differences were resolved through consensus until there was agreement on each component, as well as a global rating for the study.

Data extraction
The data were extracted from all strong and moderate studies using a standard tool developed by the Effective Public Health Practice Project, details of which were provided in the document. Two reviewers extracted all the data independently. Consensus was reached on all the extracted data. The data were entered into a database by one team member and checked by another.

Methods of synthesis
How were the studies combined?
The studies were presented in tabular format and described narratively.

How were differences between studies investigated?
Differences were discussed separately for multifaceted interventions and only peer/paraprofessional interventions. Within these categories, differences were described in relation to the intensity of the intervention, the location and the outcomes.

Results of the review
Eighty-four articles representing 69 studies were retrieved after the relevance and quality testing. Following the quality assessment, 4 studies were rated as strong, 17 as moderate and 48 as weak. Only the strong and moderate studies were included, therefore 21 studies were included.

There was wide variation in the scope and duration of the peer/paraprofessional interventions, as well as the outcomes targeted. Peer/paraprofessional 1:1 interventions are frequently embedded in multifaceted interventions, i.e. interventions with multiple components and or intervenors, some of whom are professionals. The peer/paraprofessional was the sole intervenor in 9 studies, and as part of a multi-intervention programme in 12 studies.

Almost all of the studies targeted high-risk populations who were low income, with additional past or current medical, behavioural, social or environmental risk factors. There was variation in the scope and duration of the interventions: role, background, training and supervision of the peers/paraprofessionals; outcomes targeted; and the timing of outcome measurement. In the 9 studies that had only a peer/paraprofessional intervenor, the most frequently targeted outcomes were child development and parent-child interaction. The review suggests that peers/paraprofessionals can have a positive impact on child development and parent-child interaction, especially when the intervention is high in intensity (weekly or bi-weekly over a 1-year period) and part of a multifaceted intervention that includes professionals. Very few high-quality studies have examined outcomes such as health care use, child behaviour, health status of the child,
child abuse and neglect, and maternal psychosocial health status using similar measures. Therefore, the evidence of the impact of peer/paraprofessional interventions on these outcomes is quite tentative. There was no evidence for the positive impact of 1:1 interventions conducted exclusively by peers/paraprofessionals in preventing child abuse or neglect.

Cost information
No high-quality cost-effectiveness studies have been reported in the literature.

Authors' conclusions
Peer/paraprofessional 1:1 interventions can have a positive impact on child development and parent child interaction, particularly when the intervention is of high intensity beginning in the antenatal period and the peer/paraprofessional intervention is embedded in multifaceted interventions. The evidence is tentative for an impact on health care utilisation, child health status, child abuse and neglect, and maternal psychosocial health status. The long-term effect remains unknown.

CRD commentary
This was a review of a useful topic. The inclusion criteria were useful in that they excluded totally professional interventions. The search was comprehensive in terms of the databases searched, although language restriction were not mentioned. The methodology of this review was well described, and it was reassuring that adequate procedures were used to minimise bias. The included studies were well described and presented in tabular format. The findings were summarised appropriately.

The conclusions drawn by the authors are given more strength than is merited by the data presented.

Reviewer's comment: None of the studies reviewed were from the UK (they were mainly drawn from the USA), and as such, may not be directly relevant to the UK public health setting given the different social and health systems available. However, some aspects are universal, in that non-professionals can play a positive role in promoting parent child interaction and child development.

Implications of the review for practice and research
Practice: The authors state that peers/paraprofessionals can have an impact on parent-child interactions and child development. Such interventions commence in the antenatal period and are high in intensity (weekly bi-weekly for at least one year) and are part of a multi-component intervention, with some parts of the programme being delivered by professionals. There is a need to train and supervise peers/paraprofessionals in the interventions being delivered.

Research: The authors state that high-quality longitudinal research to evaluate the effectiveness of peer/paraprofessional interventions with both high- and low-risk populations should be undertaken in both urban and rural settings.

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