Parent education programmes for children's behaviour problems: medium to long term effectiveness

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Authors' objectives
To investigate whether parenting education is effective in the medium to long term and what the likely costs and benefits are from an expansion of service provision to this area.

Searching
A comprehensive literature search involving 14 databases and an internet search was conducted. Full details of the search strategy are provided in the report. Citations were also checked from all articles received. Government publications of relevance were reviewed, and other organisations involved in co-ordination and research in parent education were contacted for unpublished evaluation material. Sources were searched from 1960 onwards as before this time formal parent education had not been introduced.

Study selection
Study designs of evaluations included in the review
Studies with a comparison group and sample size >10 where follow-up has taken place at least one year post intervention. Studies with losses to follow-up of >30% were excluded.

Specific interventions included in the review
Formal parent education or training. Could be in groups, at home or part of a programme where parent education is a major part. Studies were excluded where parent education was only one part of an extensive programme or where the emphasis was on informal support rather than education.

Participants included in the review
Children aged 0-16 years with behavioural, anti-social or conduct disorders and at risk children from low income families or families with teen or single parents. Children with diagnosed psychiatric disorders such as autism and attention deficit disorder or with problems severe enough to be in-patients were excluded, as were low risk mothers and child abusers.

Outcomes assessed in the review
Any outcome related to child behaviour, parental self-esteem and stress and social outcomes. Outcome measures had to be validated. Studies had to report loss to follow-up under 30% unless they demonstrated that loss to follow-up did not alter results. Outcomes that are not directly measurable were excluded.

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
Studies were evaluated on the following methodological criteria: observer bias (blinded observation), detection bias (was the study conducted prospectively), selection bias (was the method of selection identified and appropriate - randomisation or similar), were groups similar at the start (either randomised or shown to be similar), were any possible confounders explored. Studies were given one point for each validity criterion fulfilled. The authors do not state how many of the authors performed the validity assessment.

Data extraction
Data was extracted from the databases onto an Excel spreadsheet to prevent duplication of retrieval and to classify papers by the pre-determined inclusion criteria. On retrieval, data were recorded in a further Excel database to include quality assessment criteria. Data were extracted on study design, quality score, population, intervention, outcome measure, baseline measures in control and intervention groups and final measures in control and intervention groups, and a comment was added by the reviewers.

Methods of synthesis
How were the studies combined?
Between and within group effect sizes were calculated where sufficient information was presented. Due to the heterogeneous nature of the studies the results were pooled by discussing the direction of effect and the statistical significance of this change for each study.

How were differences between studies investigated?
The authors do not report how the studies were assessed for heterogeneity but state that the studies were too heterogeneous in terms of intervention, population, and outcome measured to pool study results.

Results of the review
A total of 19 studies were included in the review. Of fifteen studies (n=1348 children) of the effect of parent education on child behaviour, ten were RCTs, one was a controlled trial and four were pre-post intervention trials. Eight studies (n=484 children, number of parents not reported) looked at the effect of parent education on parental well-being, and four of these were RCTs, three were pre-post intervention trials and one compared three intervention groups to a control group. Five studies looked at societal and health service outcomes (n=1122), and four of these studies were RCTs and one was a per-post intervention trial.

Effect of parent education on child behaviour (n=15):
Nine of the 10 RCTs were classified as having a quality score of 4 or more.

Fourteen of the 15 studies had a positive results, 11 had significant positive results. One study reported mixed results and in one of the positive but non-significant studies effects were positive in the short term but returned to baseline in the longer term. The results were in general more significantly positive where group parent education was the main intervention rather than individual work, or work within a larger programme. The length of follow-up did not affect the general direction of effect nor did the quality of the study as assessed by the validity score. Where only those results were considered where there was independent observation of behaviour the result remained significantly positive.

Effects of parent education on parent well-being (n=8):
All of the eight studies had a positive effect, six significantly so. Overall, the result was significantly positive for most studies and did not differ according to intervention, quality score or length of follow-up.

Societal and health service outcomes (n=5):
All studies demonstrated a positive direction of effect but for many the change was not significant. It is difficult to draw definite conclusions from the studies in this section due to the variable populations studies, the variety of intervention and lack of independently assessed outcomes. However, results are promising for more appropriate use of health services, delay in subsequent pregnancy, and for uptake of further education. Less clear are the effects on crime, delinquency, drug use and child abuse.

Cost information
Cost-consequence analysis shows the relatively low costs involved in providing a parent education services when set against the potential cost-savings and short- and long-term benefits to both the NHS, other statutory bodies and to society as a whole. The likely costs and benefits incurred from expansion of this service are most likely to be in favour of parent education.
Authors' conclusions
There is evidence that parent education is effective in the medium to long term. In relating the results of this systematic review and cost analysis to the original problem of whether health care commissioners should support teaching parenting skills, it is immediately acknowledged that existing research does not provide a complete answer. However it does provide encouragement to those contemplating such activity provided they stick to the population groups, settings, and interventions which have been evaluated. For those sceptical about the value of such activities, it is unlikely that the results of this review will be wholly convincing. In this case the report identifies where uncertainty exists, namely better estimation of effect sizes, particularly the global impact. The onus in this case is on rigorous research.

CRD commentary
A good review of the area. A thorough literature search was conducted which included attempts to locate unpublished literature. Inclusion criteria were clearly stated and validity was formally assessed. The authors should have provided further information on the number of reviewers involved in each stage of the review process such as assessing studies for inclusion, data extraction and quality assessment. Study details are clearly presented in summary tables and the narrative synthesis presented is appropriate in view of the heterogeneity of the studies evaluated. It would have been helpful if the reviewers had placed more emphasis on the results obtained from the randomised control trials as studies of this design are less likely to produce biased results. The authors conclusions follow from the results presented.

Implications of the review for practice and research
Practice: The authors state that 'the recommendation for parent education programmes for children's behaviour problems - medium to long term effectiveness - was supported for routine use'.

Research: The authors state that 'further evaluation of current services needs to be carried out' and that 'better research is needed and the programmes need more evaluation before making them more available'.

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the reliability of the review and the conclusions drawn.