Effects of parenting education with expectant and new parents: a meta-analysis

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CRD summary
This review found that early parenting interventions produced significant benefits for new and expectant parents on outcomes related to parenting and infant welfare. Potential limitations from the conduct of the review made the reliability of the results unclear. The authors' conclusion should be interpreted with some caution.

Authors' objectives
To estimate the effectiveness of interventions aimed at easing the transition to parenthood and to identify characteristics of studies that may be associated with larger treatment effects.

Searching
PsycINFO, MEDLINE, PSYNDEX and Web of Knowledge were searched to the end of 2009 for relevant studies. Search terms were reported.

Study selection
Randomised studies of expectant couples or new parents with a baby aged under six months were eligible for inclusion if parenting education interventions were compared with no intervention or minimal education and where effect sizes were reported or could be calculated. Studies that examined interventions that were focused solely on improving couples' relationships were excluded. Also excluded were prevention or treatment programmes for psychological disorders such as depression and those designed for parents of chronically ill or disabled children. The primary outcomes were positive parenting and child abuse. Secondary outcomes were parental stress, parental mental health, quality of the couple's relationships and child development.

Most of the included studies were of families defined as at risk. Most interventions included only mothers. Parents in the studies had a mean age of 24.3 years and 79% were expecting their first child. Most interventions commenced after childbirth. Intervention goals included teaching infant care, promotion of parental responsibility, sensitivity, immunization and cognitive stimulation of the child, counseling for individual problems, discussion of family planning, health promotion and prevention of child abuse. Most interventions were delivered in family homes; other interventions took place in hospitals and in the community, sometimes as group interventions. Average duration of interventions was 15 months (range one day to 60 months). Respondents attended an average of 29 meetings (range one meeting to 421 meetings). A wide range of instruments and scales was used to measure outcomes particularly in assessing parenting quality and child development.

The authors did not state how many reviewers performed the study selection.

Assessment of study quality
The authors did not state any formal assessment of methodological quality. Comparability of groups at baseline and dropout rates were reported to be assessed.

Data extraction
Data were extracted to calculate effect sizes and 95% confidence intervals (CI) for the outcomes.

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
Pooled weighted effect sizes that were adjusted because of differences in pre-tests, and 95% CIs, were calculated using a random-effects model. Statistical heterogeneity was evaluated using Cochran's Q. Influences of moderator variables were evaluated using multiple regression analyses. The authors examined potential publication bias by investigating whether effect sizes varied by sample size.
Results of the review
One hundred and forty-two studies were included in the review. Study designs were not reported. Mean sample size was 108 participants. Follow-up data were reported in 42 studies; the mean follow-up period from completion of the intervention and follow-up was 28.6 months.

Significant benefits of the interventions were shown for all parenting variables including parenting quality (d=0.35, 95% CI 0.29 to 0.42; 103 treated samples) parenting stress (d=0.20, 95% CI 0.11 to 0.29; 26 treated samples), child abuse/neglect (d=0.13, 95% CI 0.05 to 0.21; 29 samples) and health-promoting parental behaviour including immunisations (d=0.15, 95% CI 0.07 to 0.23; 30 treated samples).

Significant positive outcomes were observed in child outcomes including cognitive development (d=0.24, 95% CI 0.14 to 0.33; 38 samples), motor development (d=0.15, 95% CI 0.07 to 0.23; 22 treated samples), social development (d=0.30, 95% CI 0.19 to 0.42; 34 treated samples), child mental health (d=0.24, 95% CI 0.15 to 0.32; 40 samples).

Significant benefits were observed for parental outcomes measured by parental mental health (d=0.13, 95% CI 0.06 to 0.20; 33 treated samples) and couple adjustment (d=0.19, 95% CI 0.06 to 0.33; 13 treated samples).

Significant benefits were observed at follow-up for all child outcomes and for parenting quality.

Statistically significant heterogeneity was observed across trials for all results reported at the end of the interventions.

Larger effect sizes were found for interventions that were delivered after childbirth, administered using a group format, administered by professionals, less recent studies and studies that were delivered largely or exclusively to mothers only.

Authors' conclusions
Early parenting interventions produced small but significant benefits for new and expectant parents on outcomes related to parenting and infant welfare.

CRD commentary
The review addressed a question that was broad in scope. Potentially reproducible inclusion criteria were specified. Appropriate electronic databases were searched. There were no reported attempts to identify unpublished studies, so there was a risk of publication bias. The authors did not report any steps to minimise errors or bias for any part of the review process. There was no formal assessment of methodological quality, although some parameters related to study quality were evaluated. There was no summary of the designs of the included studies and insufficient information was provided to ascertain the conduct of the studies. This made the reliability of the results unclear, particularly as there was no indication of how many of the sample populations were lost to follow-up. It was unclear whether it was appropriate to pool results as there was insufficient information about the populations and interventions in each study. There was significant statistical heterogeneity observed across the trials for the outcomes assessed on completion of the interventions.

Potential limitations from the conduct of the review made the reliability of the results unclear. The authors' conclusion should be interpreted with some caution.

Implications of the review for practice and research
Practice: The authors stated that parenting education interventions should be available to new and expectant parents.
Researchers and practitioners should carefully match intervention goals to assessed outcomes.

Research: The authors stated that more research was required to ascertain which parent groups were most likely to benefit from certain types of intervention and compare the effects of interventions received before, during and after pregnancy. Research was required to determine whether similar effects were observed in more natural conditions than the research settings described in the review.
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