CRD summary
The authors concluded that parent-led interventions resulted in positive outcomes for children with ASD and their parents, but that there was considerable variation between interventions and methods of measuring outcomes. Given the methodological weaknesses of the included studies and the absence of statistical data, the authors’ conclusions should be treated with caution.

Authors’ objectives
To evaluate the impact of parent-implemented interventions on the social and communication skills of young children with autism spectrum disorders (ASD).

Searching
ERIC and PsycINFO were searched for articles published in peer-reviewed articles between 1997 to 2007. Search terms were reported. Bibliographies of retrieved articles, reviews and book chapters were handsearched.

Study selection
Studies of parent-implemented interventions aimed at improving social and communication skills in children with ASD and that contained at least one child aged six years or less were eligible for inclusion. Outcome data had to be collected at least in part within the home environment.

Included studies assessed a variety of parent-implemented interventions including reciprocal imitation training, modified incidental training, imitating/animating and expectant waiting methods, pivotal response training and enhanced milieu teaching. Where stated, the duration of parent-led interventions ranged from five one-week intervals to one year. Most participants were boys. Participant ages ranged from 20 months to nine years. Where stated, most parents were mothers; two studies were of fathers only. Outcomes reported in the included studies were parent fidelity to the training model, parental stress, parental response to the child, parental satisfaction and a variety of measures of child verbal communication, imitation and child symptoms.

The authors did not state how the studies were selected for the review.

Assessment of study quality
The validity of the included studies was assessed according to inter-rater reliability, generalisation and maintenance of outcomes, social validity of the intervention (parental satisfaction) and whether parental fidelity to the intervention was assessed.

The authors did not state how many reviewers performed the validity assessment.

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

Methods of synthesis
The studies were combined in a narrative synthesis and grouped according to research design.

Results of the review
Twelve studies were included for the review (97 children and 102 parents/caregivers): one randomised controlled trial (24 children and 25 parents); one pre-post intervention study (20 children and 20 mothers); two mixed single-subject and group analysis studies (28 children and 28 parents); and eight single subject design (25 children and 29 parents).
Sample sizes ranged from two to 20 children. Inter-rater reliability was reported in 11 studies and ranged from 62% to 100%. Nine studies assessed the fidelity of parent-implemented interventions.

**Comparative studies (four studies):**

An RCT that compared parent intervention focused on joint attention and joint engagement with services available locally found some evidence that the parent intervention group made more progress than the local services group (24 children; no statistical data provided). There were no measures of parental fidelity to implementation. Child outcomes were rated by parents. Two studies found that interventions that were modified or contextualised to the family had greater impact on challenging behaviour and/or communication that the standard parent-led intervention (six children and six adults; no statistical data provided). One study found that both the DENVER model and PROMPT resulted in increased non-verbal and verbal communication when implemented by parents (10 children and 10 parents; no statistical data provided).

**Non-comparative studies (eight studies):**

All reported that parent-implemented interventions were associated with positive outcomes in the communication and behaviour of children with ASD.

**Authors' conclusions**

Parent-led interventions resulted in positive outcomes for children with ASD and their parents. However, there was considerable variation between interventions and methods of measuring outcomes.

**CRD commentary**

The review addressed a clear question. The inclusion criteria were well defined but broad for intervention, outcomes and study design. Only two databases were searched and so some studies may have been missed. The review was restricted to published peer-reviewed articles, which may have resulted in publication bias. It was unclear whether the search was restricted by language and so the possibility of language bias could not be ruled out. The authors did not state whether appropriate steps were taken in the review process in order to minimise the risk of reviewer error and bias. Some aspects of study validity were assessed, but no comprehensive assessment of study validity was carried out. Most of the included studies used weak methodological designs. Given the clinical heterogeneity between the included studies, the decision to combine the studies in a narrative synthesis was appropriate. However, the absence of statistical data made it difficult for the reader to ascertain the clinical and statistical significance of the findings. Given the methodological weaknesses of the included studies and the absence of statistical data, the authors’ conclusions should be treated with caution.

**Implications of the review for practice and research**

**Practice:** The authors stated that there was a need for materials about interventions for parents written in parent-friendly and jargon-free language and a need to educate professionals about the training of family members in evidence-based interventions.

**Research:** The authors stated that further large-scale research was needed into parent-led interventions. Studies should pay attention to measures of fidelity of implementation, evaluate interventions in populations from diverse social and cultural backgrounds and investigate strategies that enabled generalisation of skills.

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**Bibliographic details**

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.