A review of intervention programs to prevent and treat behavioral problems in young children with developmental disabilities

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CRD summary
Preliminary evidence suggested that young children with developmental disabilities and their families could benefit from interventions to prevent or treat behavioural problems. Limitations in the review conduct and the evidence presented, are causes for concern, but the conclusions were appropriately presented as preliminary.

Authors' objectives
To evaluate interventions to prevent or treat behavioural problems in young children with developmental disabilities.

Searching
PsycINFO, MEDLINE, and ERIC were searched for studies, in English, published between 1990 and 2011. Online databases of national organisations, and websites of intervention developers, were searched. References lists of selected studies were consulted for additional studies. Search terms were reported.

Study selection
Randomised controlled trials (RCTs) or quasi-RCTs focusing on the prevention or treatment of internalising or externalising behavioural problems, using a manual, were eligible for inclusion. Trials had to be of children with developmental disabilities, such as autism spectrum disorder, Down's syndrome, or foetal alcohol spectrum disorder, between the ages of three and eight years, or their families. Trials of children with specific learning disabilities, specific language impairment, or attention deficit hyperactivity disorder, were excluded.

Nearly all the included trials were of parenting interventions. Most programmes were preventative, focusing on externalising behavioural problems, and addressed a variety of developmental disabilities. Sessions were delivered in groups or individually; some trials did not report delivery type. Frequency and duration of the interventions varied across trials. All reported child behavioural problems as a primary outcome.

It appears that the author alone selected the trials.

Assessment of study quality
The author did not state that trial quality was assessed.

Data extraction
Where reported, the effect sizes were extracted from the original trials as eta squared ($\eta^2$) or Cohen's d. An $\eta^2$ of 0.01 was considered to be small, 0.06 was medium, and 0.14 was large. A Cohen's d of 0.2 was considered to be small, 0.5 was medium, and 0.8 was large.

It seems that the author alone extracted all the data.

Methods of synthesis
The results were reported in a narrative synthesis, by delivery method: parenting interventions, school-based interventions, or multi-component interventions.

Results of the review
Seventeen trials (1,389 children), evaluating nine intervention programmes, were identified. Eleven reported a follow-up evaluation, at between three months and two years (median six months). Where reported, attrition rates ranged from none to 54% (median 25%). All 15 trials with a parent training component, used parent-reported measures of child behaviour; three of these also reported an observational measure (not defined) of parent-child interaction.

Fifteen of the 17 trials reported greater improvement in children's behaviour or emotional functioning, after the
intervention, compared with control. Effect sizes were considered generally to be within the medium to large range.

Only two of 13 trials found significant decreases in parenting stress after their intervention.

**Authors’ conclusions**

Preliminary evidence suggested that young children with developmental disabilities and their families could benefit from interventions designed to prevent or treat behavioural problems.

**CRD commentary**

The review question was clear and the selection criteria were generally well reported. Only published trials were included. This, with the lack of large trials, means that the risk of publication bias cannot be excluded. Only the author appears to have conducted the review, so no significant attempts could be made to reduce reviewer error and bias.

No formal assessment of trial quality was performed, but most only presented self-reported outcomes, and participants and intervention personnel were unlikely to have been blinded given the nature of the interventions. Therefore, performance and detection bias cannot be excluded. The risk of attrition bias was high in several trials with high attrition rates. The author noted that some trials may have lacked the power to detect effects. Due to differences between the trials, a narrative synthesis seems to have been appropriate. The effect sizes were reported and attempts to interpret their magnitude were made, but the statistical significance and precision of these estimates were not clearly reported, making their interpretation difficult.

The potential for bias in the review, the evidence presented, and the limitations in the reporting of the trials, are causes for concern. Given this, the fact that the author presented these conclusions as preliminary, was appropriate.

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

**Practice:** The author stated that multi-component interventions could be more effective for child behaviour problems and have more benefits for parent and family adjustment; wider dissemination was needed.

**Research:** The author stated that the development and evaluation of preventive interventions was needed. The dynamic processes influencing the onset and course of behavioural problems should be investigated, as well as those factors that influence which children and families are most likely to respond to intervention. Trials should use effective methods to limit the risk of attrition, and have long follow-up.

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