Effectiveness of individually delivered indicated school-based interventions on externalizing behavior

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CRD summary
The authors advocated cautiously that individual (child-focused) school-based interventions, and those that included additional components, were effective in reducing externalising behaviour in at-risk children. High levels of variation amongst some included studies, and their unknown quality overall means that the reliability of this review is uncertain.

Authors’ objectives
To evaluate the effects of individually delivered indicated school-based interventions for externalising behaviour problems in children.

Searching
PsycINFO, the Educational Resource Information Centre (ERIC) databases and Web of Knowledge were searched to December 2011. Search terms were reported. Databases for prevention (CASEL, SAMSHA, NJI) in the United States and Netherlands were also searched. The bibliographies of meta-analyses, reviews and retrieved studies were scanned to identify further studies. A conference call (Society for Research of Child Development 2009) was made and leading authors were contacted to retrieve unpublished material.

Study selection
Eligible for inclusion were randomised controlled trials (RCTs) or quasi-experimental studies with matched control groups, that focused on school-based, individually-delivered interventions which were indicated (not universally available) to individually-selected children at risk for developing stable externalising behaviour problems. Individually-delivered programmes were defined as indicated preventive programmes (targeted at children with existing symptoms of externalising behaviour) delivered in a one-to-one setting with an adult. Children had to be in grade kindergarten to grade six. Externalising behaviour was the outcome of interest.

A range of interventions and outcome measures (reported in the paper) were included. Control conditions were not specified. Participants were boys and girls, with a predominance of African American or Mexican American ethnicity. Interventions were largely based on cognitive or behavioural strategy and delivered by trained professionals. Outcomes were reported mainly by teachers. For individual interventions, children were classed mainly as lower risk. For interventions with additional components, over half of studies contained children at high risk. Externalising behaviour problems included verbal, physical and relational aggression, delinquent behaviour, disruptive/antisocial behaviour or conduct problems (defined in the paper).

Two reviewers applied the inclusion criteria.

Assessment of study quality
There was no reported formal assessment of study quality.

Data extraction
Data were extracted to enable the presentation of effect sizes with 95% confidence intervals.

It appeared that two reviewers extracted the data and disagreements were resolved by discussion.

Methods of synthesis
Effect sizes were pooled in random-effects meta-analyses and weighted by the inverse variance method. Separate analyses were conducted for purely individual child-focused interventions, and for those which contained an additional component (such as a modified school environment or parental involvement). Statistical heterogeneity was assessed with Q and I². Moderator analysis was conducted using weighted regression to explore the effect of mean age, treatment modality, and risk level for externalising behaviour.
Results of the review
Twenty-four studies were included (18 RCTs and six quasi-experimental studies; sample sizes ranged from 20 to 284 participants). Eleven studies (738 participants) focused on individual interventions, and 13 studies (1,165 participants) evaluated individual plus additional component interventions.

Pooled effects for individual interventions ($d=0.30$, 95% CI 0.14 to 0.46; $I^2=13\%$) and for interventions with additional components ($d=0.30$, 95% CI 0.04 to 0.56; $I^2=75\%$) showed that both types of interventions were more effective than control in reducing externalising behaviour. Regression analyses suggested that age was the only significant moderator ($p=0.001$), which demonstrated that younger children were likely to benefit more from the intervention.

Authors’ conclusions
The authors advocate cautiously that individual (child-focused) school-based interventions, and those which included additional components, were effective in reducing externalising behaviour in at-risk children.

CRD commentary
The review question was clear and inclusion criteria were sufficiently detailed to enable replication. Several relevant data sources were searched, and attempts made to minimise publication bias. The review processes for study selection and data extraction were conducted with steps to minimise error and bias. The absence of any quality assessment of included studies meant that their reliability (and by extension, the reliability of the review) was uncertain.

Study details were presented, and statistical heterogeneity was assessed. This was high for studies which included additional components; consequently it was unclear whether statistical synthesis of these studies was appropriate. Attempts were made to explain the variation. There were no details on what was offered to the control groups, which limited the extent to which meaningful comparisons could be made. The authors drew attention to various methodological limitations.

High levels of variation amongst some included studies, and their unknown quality overall means that the reliability of this review is uncertain.

Implications of the review for practice and research
Practice: The authors concluded that variability in the effectiveness of interventions suggested that schools should select evidence-based programmes carefully to suit the needs of their specific population.

Research: The authors stated that more research was needed to establish the factors that contribute to effectiveness in the current programmes, including the impact of implementation conditions. Research into long-term outcomes and the economic impact of interventions was also needed.

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